

# THE AMERICAN ELEVATOR AND GRAIN TRADE.

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A MONTHLY JOURNAL DEVOTED TO THE ELEVATOR AND GRAIN INTERESTS.

PUBLISHED BY  
Mitchell Bros. Company.  
(INCORPORATED.)

Vol. II.

CHICAGO, ILLINOIS, SEPTEMBER 15, 1883.

No. 3.

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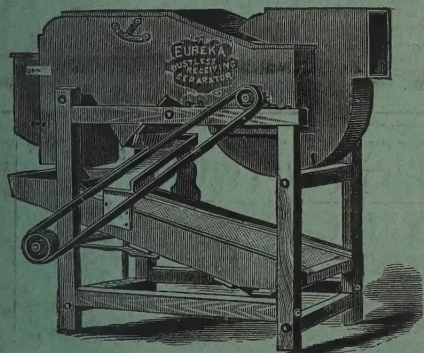
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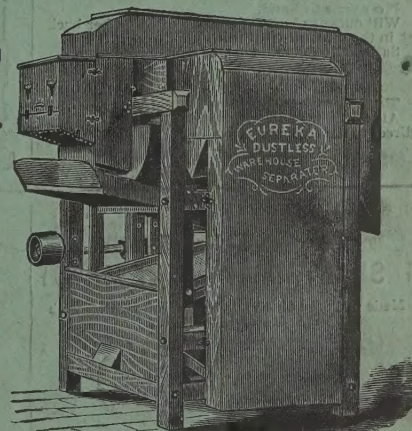
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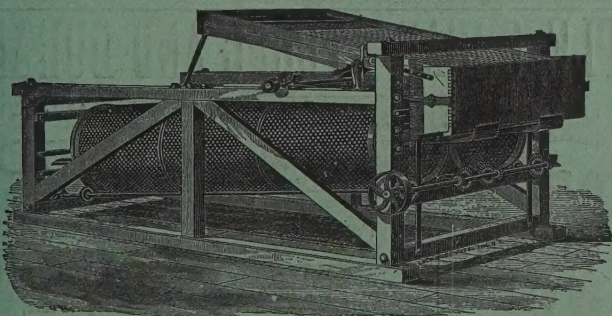


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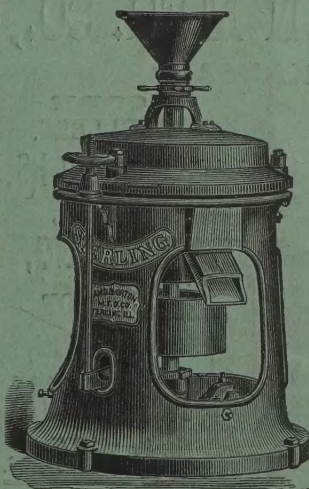
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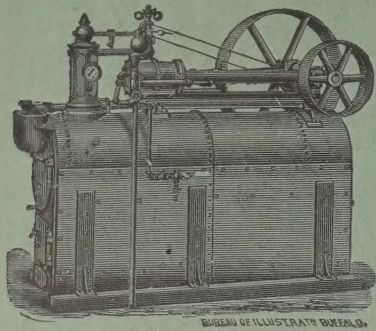
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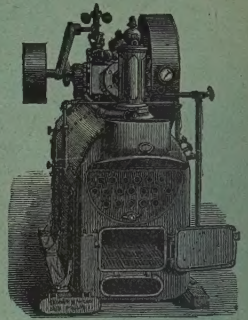


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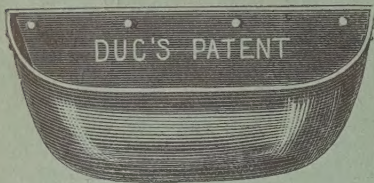
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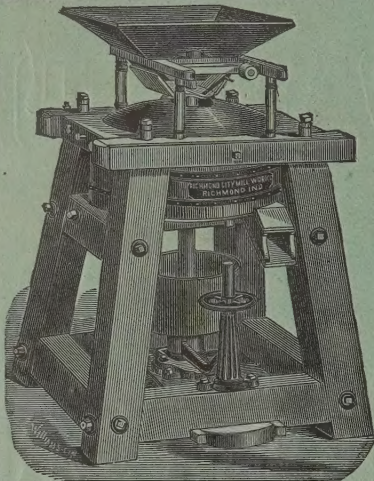
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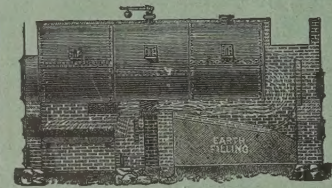
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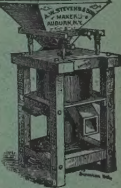
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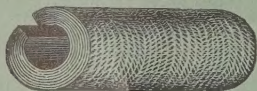


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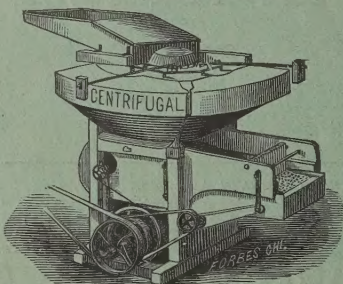
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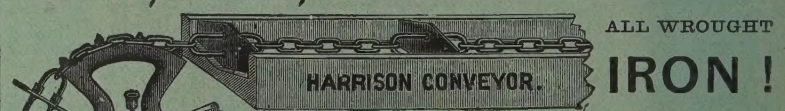
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### THE MEMPHIS GRAIN AND PACKAGE ELEVATOR.

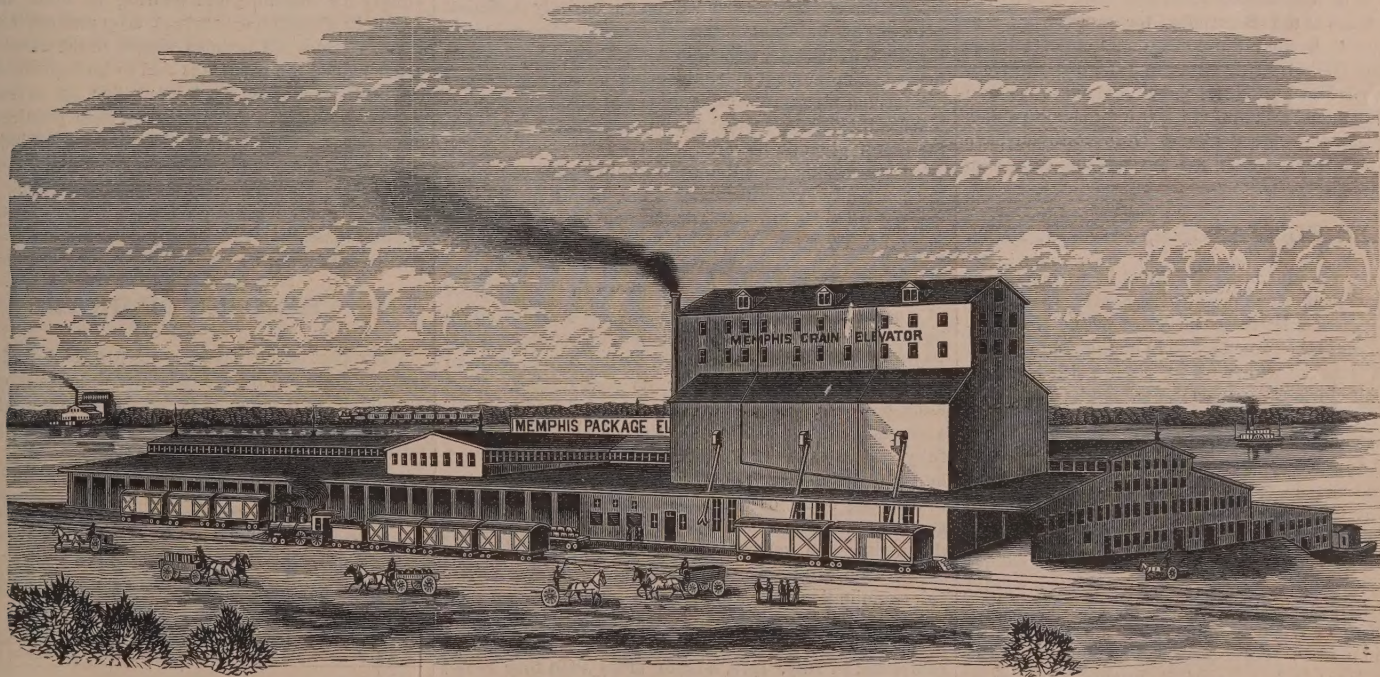
The grain elevator is a new institution, comparatively, in the South, and is one of the prominent evidences of the recent immense extension of her industries. It stands among those improved facilities for the benefit of traffic that stimulate production, and are an index of the progress of the people, both in wealth and culture. The

highest social and intellectual development of a nation or country, and fully compensates the time and capital devoted to its maintenance and increase.

We present our readers on this page, with an illustration of the Memphis Grain and Package Elevator at Center Landing, Memphis, Tenn. The Package Elevator is for the receiving of all classes of freight handled by cars or boats. The building, one of the largest, if not the largest in the United States, is 300x350 feet, with a

windows on the side, gives ample light to the building.

Situated in the center of the building, and raised above the storage floor, are four large offices reached by a double flight of stairs, accessible from all parts of the building. Two tracks are used exclusively by the elevator for receiving and shipping goods, and large sliding doors are provided along the entire front. Three boats can be unloaded at the same time, each at the rate of from 3,000 to 6,000 packages an hour.



THE MEMPHIS GRAIN AND PACKAGE ELEVATOR.

labor-saving machine, that at first thought would seem to be a rival of the workman, taking from him his opportunity to work and his means to live is, as history shows, the opposite in its effects, decreasing the hours and the severity of his work, adding to its remuneration, and multiplying the means at his command for obtaining the comforts of life and their enjoyment, and for the education of his children. The dependence of a great section of the country upon one or two great staples of commerce with a failure to produce, in large variety, the breadstuffs required for food, is not conducive to its highest development, and is attended with the dangers of periods of over-production alternated by that of almost entire failure. A large production of the cereals, with all its interlinked industries, goes hand in hand with the

river front four stories in height, and the part near the track one story, giving a floor surface of over 225,000 square feet. Three package or freight legs used for unloading steamboats, reaching from the main floor to the boats, are wrought iron trestles, 75 feet long. The upper end of each rests on a carriage that travels backward and forward as the outer end is raised or lowered by the rise or fall of the water. The outer end is raised or lowered by iron blocks and chains. Two small engines, at the head of each leg, furnish the power which runs an endless chain, on which cleats are bolted. Three shorter legs run from the main floor to the upper or storage floor. Teams pass through on all the different floors. A skylight runs through the full length of the building each way, forming a cross which, with

The grain elevator being run in connection with the warehouse, has many parts in common. It occupies a space of 60x150 feet, and is 250 feet from the river front of the latter. It is built on the Watson Plan. Three dock or canal legs are placed on the river front. These differ from any in the country, requiring less machinery, and less elevation of grain. Three drag belts convey the grain a distance of 275 feet and discharge it into the sinks of the elevator, whence it is elevated, weighed, and spouted into bins.

Six shipping bins and loading spouts are provided on the railroad side of the building for loading grain into cars. There are also a number of spouts for sacking and loading into wagons. Two 100-horse power, steel boilers, and a 100-horse power engine, furnish the motive



power for the grain elevator and drag belts. Three small engines run the dock legs. Besides these, nine other small engines are used in running the freight legs, and one hoisting engine for various purposes. Pipes from the two boilers convey steam to all these engines. Waterpipes running the whole length of the building supply water to 32 fire plugs with ample hose attached. Slate roof covers the grain elevator, gravel the warehouse, and the sides of the entire structure are covered with corrugated iron. Mr. Wm. Watson of Chicago, Ill., was the architect and builder.

### THE NEWPORT NEWS ELEVATOR.

The new elevator in process of erection at Newport News, Va., is giving evidence of its intended magnificent dimensions and strength. The building, which is to be from 70 to 80 feet in height from the ground, rests on stone and iron pillars inclosed with a brick underpinning. The first story, about 18 feet in height, windowless, except three small ones on the west side, is constructed of two-inch pine plank, eight inches wide, laid flat and spiked every eight inches, and every course locked with plank of the same thickness, four and six inches wide. There is a labyrinth of massive timbers extending entirely through the building, which is to be divided into 365 bins, having a total capacity of 1,500,000 bushels. The engine house, also under way, is a large, substantial brick building, and will be supplied with a brick smoke-stack 170 feet in height. The conductor frames on the roof of Pier No. 2 are to be connected by trusses with elevator, which are being now put together. The whole structure, it is anticipated, will be completed by March 1, 1884. Between the elevator and coal house is a new brick engine house, one story, about 40 feet square, with a 70-foot smoke-stack, and the machinery for generating electricity for lighting the water works that are to supply the entire railroad property, is in its place, and of a powerful description. Extensive improvements are being made at the dock head and piers, by filling in and construction, and foreign vessels have already commenced loading wheat at the coal pier. A regular bi-monthly line of steamers to Europe is to be established from this port, which will stop both ways at the Bermudas, for transportation of grain, etc., with bonded warehouses and other facilities for handling freight. It is stated that the distance from the Capes, via Newport News and Richmond to Western stations, is much less than via Baltimore and the B. & O. Road, while the Chesapeake & Ohio Railroad have perfected fast freight trains for the purpose of accommodating this business.

### FIRES IN ELEVATORS, MILLS, ETC.

The Western Manufacturers' Mutual Insurance Co. of this city, has made some practical suggestions as to preventive measures relative to incipient fires. No appliance has as yet proved so effective in extinguishing small fires as salt water, of which casks, always filled, should be kept in all elevators, granaries, etc. Each cask should have a cover, with a rim overlapping to exclude dust; plenty of salt should be used, and it should be occasionally stirred up. Every floor should have two casks, one near and one remote from the stairway, and with each should be, at least, two buckets, an ax, a bar, and one stout hand-saw, at least, on each floor. The cost of this outfit would be about \$10 per floor; large houses should have a larger number of casks, etc. Fire buckets should be either of paper or galvanized iron, and be plainly marked "Fire." Wooden buckets are liable to shrink and become useless. Paper pails can be obtained of the St. Joseph Paper & Pail Co. of St. Joseph, Mich., or of Dimock, Gould & Co., Moline, Ill.; a good metal fire pail is made by the St. Louis Stamping Works, and by other factories. These tools should be always in their places ready for instant use, and it should be made the specific duty of some responsible employe to see that it is the case.

A stock speculator in Chicago, who sat watching the declining quotations on the blackboard the other day, turned to his broker and requested him to ask his New York correspondent, by telegraph, what effect a frost in Minnesota would have on Chicago and Northwestern. When the dispatch reached New York it was construed as a matter of actual occurrence, and soon found circulation sufficiently to lower Northwestern a couple of points. The speculator grew alarmed and sold out at a loss of which he had himself been the cause.

[For the AMERICAN ELEVATOR AND GRAIN TRADE.]

### SKETCH OF CAPTAIN EADS.

It would be difficult to overestimate the importance of the Mississippi River to the grain traffic of the great valley which produces four-fifths of the corn crop and a large portion of the entire cereal product of the country. For nearly half a century the navigation of this grand river has attracted public attention, and government appropriations for its improvement date back to 1837. Among those whose names for the past thirty years or more have been intimately associated with this work is that of the distinguished engineer, James Buchanan Eads, well known as the builder of the St. Louis bridge, and the jetties at the mouth of the river, and as the author of the plans which, in the main, have been adopted by the Government Commission for its improvement, of which, until quite recently, he has been a member.

The career of Capt. Eads, now ranking among the first engineers of the world, is a typical one among the self-made men for whom genius has conquered circumstances. He was born in Lawrenceburg, Ind., in 1820, went to St. Louis at the age of thirteen, and commenced as a dry goods clerk to fight life's battle for himself. He became a clerk on a river boat in 1839, and in 1842 invented a diving-bell, and was instrumental in the salvage of thousands of dollars' worth of property sunken on the treacherous bars and snags of the river. In 1845 he started the first glass works of St. Louis. But engineering and the great river were to him the centers of attraction, and in 1856 he proposed a plan to Congress for relieving the river of its snags, which received marked attention, but failed of final adoption. After the war of the rebellion broke out he was called upon by President Lincoln to plan and build a small fleet of iron-clads, and in 1861, within a period of 100 days, he built eight such vessels, with an aggregate capacity of 5,000 tons, and equipped with 107 guns. In the years 1862-3 he built six iron-clad steamers, with turrets, whose guns, of 11 and 15-inch caliber, were worked by steam, so as to be loaded and fired at intervals of 45 seconds. These ships made their appearance a month before the Merrimac, whose turret was constructed on an entirely different plan. The building of the St. Louis bridge occupied the years of 1867-74, which, in its design and accomplishment, is a monument of engineering skill, meeting and conquering many new difficulties and mechanical problems as they arose in delicate adjustments, as well as in the use of gigantic power.

The increasing impediment to foreign trade caused by the constantly extending bars at the mouth of the Mississippi River led to the appointment by Congress, in 1872, of a commission, composed of prominent engineers and officers, to investigate and report measures for relief. This commission reported in 1874, in favor of a canal from a point on the river forty miles above its mouth, through to Breton Sound, near Fort St. Philip. This plan was adopted by the House, with an appropriation of \$8,000,000 for its construction. Capt. Eads, however, presented to Congress his objections, with a recommendation and explanation of his jetty plan, so fully, and in so strong a light, that the bill was rejected by the Senate, and a new commission was appointed comprising some of the ablest engineers of the army and navy, as well as non-official experts, to re-examine the matter and report recommendations. This new commission, with only one dissenting voice, after a careful examination and consultation with distinguished practical foreign engineers, decided in favor of the Eads' jetties. These were commenced in 1875, and completed in July, 1879, a little more than four years. In this undertaking Capt. Eads assumed the whole risks, without any payments, until such time as the degree of width and mean depth of channel specified should be obtained, considered sufficient to assure the success of the scheme. The total expense was \$5,200,000, considerably less than the estimate of the commission, and the necessary dredging has since been done at an annual expenditure of \$100,000—\$30,000 less than the commission had anticipated. It is said that previous to this construction the exports of grain from New Orleans had in no one year exceeded 500,000 bushels, while in 1879 there were 14,000,000 bushels exported. As an illustration of the previous delays to vessels from these bars, it is said that during the period from 1872 to 1877, 417 vessels were delayed outside for an average of 519 days, and that steamships were often detained for forty days. The committees, annually appointed by the gov-

ernment to examine the condition of the jetty channel and the outside bar, before payments should be made, have, up to the present time, reported favorably, and there seems to be now no obstructions at the mouth of the river that interfere with the demands of traffic.

Capt. Eads, who is now in Europe, it is understood has been called there to consult with engineers and capitalists as to the practicability of his plan for the railway transportation of loaded ships, as applied to the Isthmus of Suez.

### JENNINGS' METHOD OF DEPRIVING ATMOSPHERE OF ITS HUMIDITY FOR DRYING PURPOSES.

Jennings' new invention, advertised elsewhere, is a new departure in the art of artificial drying. Heretofore steam and furnace heat have been relied upon for this work, and these, under a pressing demand for rapidity in execution, have been developed to the utmost. Mr. Jennings holds that these fall far short of what public necessity requires, and that their failure is due mainly to the fact that these powerful agents while they can heat atmosphere to any required temperature, they at the same time heat the humidity it contains, and, of course, in so doing expand it. A good illustration of this heating of the atmosphere and consequent expansion of its humidity may be experienced any dog-day. At such time, to the average mortal, it seems as if the hotter it got the greater the moisture. And so it really is. The humidity in common atmosphere ranges all the way from 42 per cent. to 100 per cent., the latter point being complete saturation, as for instance, during a pouring rain. It is this humidity which renders drying by steam and furnace so very tedious and expensive.

In contradistinction to these and all other known methods Mr. Jennings has, after years of effort, succeeded in ridding common atmosphere of its humidity, and uses it, in its dry state, in ways and at temperatures best suited to the particular article to be dried. The methods of applying this dry air are almost as numerous as articles requiring artificial drying. Ordinarily it enters a compartment, and being very dry is of course hungry for moisture, and pouring in upon any moist article in a continuous current, soon renders it perfectly dry. Besides the articles named in the advertisement above named the process is said to be capable of drying 500 bushels of green apples, or other green fruit, daily, and of drying it in one-third the time required by any other dryer. For wool, woollens and curled hair, starch, acids and other products of grain, it claims to possess very great advantages over all other methods.

The inventor's agents, MESSRS. J. C. BATES & Co., Boston, Mass., will furnish any information that outside parties may desire.

### EXPORTS OF GRAIN.

The report of the Treasury Department as to our exports of grain during the month and seven months ended July 31, 1883, compared with the same period of 1882, contains the following facts. The first table gives the total amount and values for July:

GRAIN.	1883.		1882.	
	BUSHELS.	DOLLARS.	BUSHELS.	DOLLARS.
Barley.....	51,147	37,189	11,251	7,025
Corn.....	4,876,291	2,885,365	345,358	292,227
Oats.....	39,239	19,345	14,342	9,020
Rye.....	415,969	280,150	73,969	61,448
Wheat.....	3,752,480	4,149,326	10,484,261	12,961,106
Total.....	9,135,026	7,371,375	10,929,181	13,330,826

The following table contains the amount and value of grain exported during the seven months ended July 31, in the years mentioned:

GRAIN.	1883.		1882.	
	BUSHELS.	DOLLARS.	BUSHELS.	DOLLARS.
Barley.....	217,241	146,408	60,269	46,477
Corn.....	39,730,280	26,290,189	10,525,251	7,946,126
Oats.....	149,266	84,291	131,532	80,429
Rye.....	1,786,888	1,337,942	695,102	642,784
Wheat.....	33,094,537	37,782,830	43,247,989	51,376,969
Total.....	74,997,712	65,942,660	54,760,143	60,092,78

The new Chase Elevators of Wm. Clayton, Claytonville, Ill., and of Thos. Wilson, Rushville, Ill., have been furnished with the Excelsior Rivet Buckets by the manufacturers, Thornburgh & Glessner, Chicago, Ill.



## CALIFORNIA GRAIN AND GRAIN BAGS.

One of the expenses with which the California grain traffic is heavily handicapped is the cost of bags for foreign shipment, making an annual tax upon the grain growers of not less than \$2,000,000. With the high rates of freight to the seaboard and for ocean transportation there remains but a small margin of profit for the farmer. As bulk shipments of grain are largely made on the Atlantic, the question has been mooted, Why not also upon the Pacific? The differences between the two routes are very great; by the former the passage occupies from 14 to 20 days; by the Pacific route, around Cape Horn with its strong seas, from 90 to 100 days are required. On such long and rough passages the dangers from shifting cargoes would be ruinous, and not less than 15 per cent. it is said, of the bulk laden vessels would be foundered. This clearly appreciated danger has made the loading of vessels for this trade a special branch, requiring a certificate from the underwriters' surveyor in order to obtain insurance. Good, merchantable wheat must be contained in new jute bags, and each cargo requires from \$250 to \$350 worth of lumber for "dunnage" planks, to keep the wheat from contact with the ship's timbers and being spoiled. These precautions have become essential to the California grain shipments, and have made the loss of grain vessels very small—about three out of an annual number dispatched, of from 300 to 400, and have proportionately decreased the rates of marine insurance.

As the bags are thus a necessity the question arises how to decrease their cost. Scotland and India have been hitherto the principal sources of the supply of jute sacks, but the number from the former country has become insignificant, and India bags rule the market. A considerable quantity of jute is also imported to be manufactured into bags. The only public manufactory of the cloth and bags has been the Pacific Jute Co.'s Mills at East Oakland, which after a long struggle have failed. They have now passed into other hands, and under the name of the California Jute Co. will make another attempt at weaving burlap and making bags. The factory of the State Prison at St. Quentin, which has recently commenced operations, is very successful, and making handsome profits.

There are several factories in the state where the sewing of bags from the imported cloth is carried on. Although Government levies a protective duty on the jute and cloth to promote its cultivation and manufacture, much the larger proportion of these bags are imported ready made. Upon these also there is a duty of 40 per cent. *ad valorem*. It is stated that the imported bags command the higher price, and they are doubtless superior.

To add to this matter of expense in grain shipping, these jute bags have from time to time been made the subject of speculative "corners." But it is said that this has not occurred during the past three years, and also, curiously, that while the cost of putting a Calcutta bag upon the San Francisco market averages eight cents, its present market price is from  $\frac{1}{4}$  to  $\frac{3}{8}$  of a cent less. The highest price paid for these bags since 1876, was 14 $\frac{1}{4}$  cents in October, 1878, and the lowest was within the past few weeks, 7 cents. The last corner in July, 1881, raised the price to 10 $\frac{1}{2}$  cents. The estimated surplus of the present crop of California wheat will require some 30,000,000, and that of Oregon 6,000,000 bags.

## LINSEED OIL MILLS IN IOWA.

The linseed oil manufacturing industry seems to be having quite a boom in Iowa, stimulating the cultivation of the seed, and the increase of oil mill capacity. The oil mill at Marshalltown is now in the twelfth year of its operation, and has recently enlarged its capacity to meet the demand of the present crop which promises the unusually large yield of ten bushels to the acre. This mill uses 250,000 bushels of seed annually—mostly Iowa product—producing 5,000 barrels of oil, and 5,000 tons of oil cake. The oil is mostly shipped to Eastern markets, and the oil cake to England for stock feeding. The value of the product is about \$250,000 per annum. There are now in Iowa seven mills with an aggregate capital of \$432,000, turning out each year a product worth \$767,000, and paying about \$571,000 to the seed producers. The estimated present crop of seed is placed at 250,000 bushels. This industry has grown up since the war under the influence of protection duties. The seed for the

English manufacturer is grown in India, where it is richer in oil and is cultivated by cheap laborers working at a few cents per day. The large capital used in England in the oil manufacture, enables them to produce the oil there at a minimum of profit. This tariff protection equalizes these advantages, and enables the American manufacturer to pay the American producer a fair price for his seed, and to also make a fair profit on his product.

## LACING BELTS.

"I never put on a belt unless it has been stretched for several days, by fastening at one end and passing it back and forth over rolls between two upright beams. This gives me a good chance to draw it taut, and keep it tight by weights, and gives me all other room I want to oil and dry, and expose to the air. When this belt is cut and laced on the pulleys, you won't find the machine stopped the next day, and two or three at work taking up this belt, while the rest have a few stories to tell. My way of lacing is a little different than that which is generally used. The difference is not in the method, or in the manner, but in just the way it is produced. The lacing is drawn in to stay and not to come out the next day. I cut the holes small, and trim up the ends of the lacing with a long point, and draw them through with a forked tool. One end of this pointed lace reaches through the belt and into the fork of the tool. The fork

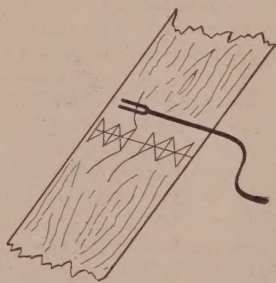


FIG. 1.

is turned by means of a crank, as shown in Fig. 1. After one-half turn of the fork, the lace will bite its own end and will be easily drawn through the belt and up as solid as you choose. For large belts, I usually commence on each edge to sew. By working from the middle of each lace, I find in this way four ends to manage, and it gives me a good chance to pass them all from one side to the other while moving about with the drawing-in fork. This fork sets the lace up so solid that the ends of the belt will always be found compressed, no matter how taut the belt may be. The force of the belt will be taken through this joint without disturbing the lacing in the least. It is all ready under a tension, and knows no difference to a light and heavy strain. My theory of this is the same as that where cannon are made by shrinking heavy bands, one outside of the other till the full bigness of the cannon is obtained. In this way each band is receiving its strain and none of them could burst without the others also bursting. I laced a belt a year ago in the way I have just shown, and I found, while looking at it the other night, that every part of the lacing was there. The butting of the ends together had not separated and bid fair to run a number of months more. Had this belt been laced in a way that would have allowed the lacing to work in the joints, I dare say it would have been strung out long ago, as it did a number of times before. There is no patent on this lacing-fork of mine, and all are welcome to make and improve it to suit themselves. If there is any one who has been obliged to draw in the lacing with his teeth, just look around for a piece of pipe or anything and fix up a fork and try it."

—Correspondence Cotton, Wool and Iron.

The report of the Chief Grain Inspector at Chicago to the Railroad and Warehouse Commission for the month of August, shows that the earnings of the Grain Inspection Department during last month were \$15,671.49, as against \$7,794.64 in August, 1882, showing a gain of \$7,876.85. There were inspected during the month 28,882 cars, against 20,549 inspected in August of last year, being a gain of 8,333 cars. There were received at Chicago by canal and lake 363,300 bushels of grain last month, and 491,500 bushels in August, 1882, showing a loss of 128,200 bushels. The shipments for August aggregated 10,665,585 bushels, while those for the same month last year footed up but 8,190,781 bushels, the increase over that month being 2,474,804 bushels.

## BARLEY.

Sacred and profane history both recognize barley as among the earliest and most important of the cereals cultivated at that time. The Bible mentions it in connection with the Mosaic plagues, "as smitten with the flax." It was then in the ear, wheat not being sown until late in the fall. Throughout the Hebrew history the "omer" and "epha of barley" are constantly mentioned. Its abundance was an index of prosperity; it was used as a symbol in the ancient sacred parables; and its measure was a standard of quantity and price in exchange. It was undoubtedly the most largely used grain as a food for man at that period, while in the luxurious age of Solomon it found its way to the royal stables. Tributes, taxes and payments, for which it was "legal tender," were largely made in barley. The Roman historian Pliny, writes of its agricultural characteristics, its maturing a month sooner than wheat, from the planting, indicating its great importance as a food in his day. There are several species of barley, *hordeum*, in present use, among which the most common are: *Vulgaris*, common or spring barley; *Hexastichon*, the six-rowed; *Distichon*, the two-rowed, and *Zeoitron*, the sprat, or Battledore barley. Besides the simple grain, barley is sold in the form of *Scotch hulled*, or *pot barley*, in which the grain is deprived of its husk; also as *pearl barley* in which the bran coatings are removed and the grains polished. The latter, when ground into flour, becomes *patent barley*. The German chemist Einhof, in his analysis of barley meal, makes the percentage of starch 67.18, and of albuminoids 4.67. The following table of M. Payen shows the percentages of the proximate elements of the various cereals:

	STARCH	GLUTEN AND OTHER AZOTIZED MATTER	DEXTIN, GLUCOSE, ETC.	FATTY MATTERS	CELLULOSE	SILICA, PHOSPHATE OF LIME, MAGNESIA, AND SOLUBLE SALTS OF POTASH AND SODA
100 PARTS OF						
Wheat.....	58.12	22.75	9.50	2.61	4.00	3.02
Rye.....	65.63	13.50	12.00	2.15	4.10	2.60
Barley.....	65.43	13.95	10.00	2.76	4.75	3.10
Oats.....	60.54	14.39	9.25	5.50	7.06	3.25
Maize.....	67.55	12.50	4.00	8.80	5.90	1.35
Rice.....	89.15	7.05	1.00	.80	3.00	.90

Barley is said to be a native of Syria, but has an almost universal adaptability to various soils and extremes of climate, ripening with equal certainty in the coldest and hottest, as well as the temperate zones. The differences of climate produce also differences in the varieties of the grain, as to qualities, texture, etc. It is an annual, but may be sown in the fall and become a winter barley. It is liable to the diseases of other cereals and to their insect enemies. But these are neither of them as numerous or as destructive as those of wheat. At different periods there have been particular kinds of barley that have attained special notoriety. A carefully selected kind introduced by M. Chevalier, was given his name and received a widely extended adoption by barley growers, and was greatly lauded. This was followed by a variety gathered in Perthshire, Scotland, named Annat, after the gardens where it was found. Its virtues as to its early maturity and large specific weight were for a time greatly extolled; but it has passed into the ranks of departed fancies. Among wheat-using nations, barley as a food is used only in the forms of peel, hulled and patent barley for invalids, children, and mixing with soups. Its principal use with us is for making malt, for which it still holds the highest rank, all things considered, although corn is largely used, and to some extent wheat, for the same purpose.

It has been suggested that a good way to prevent speculative "corners" in the necessities of life would be to organize an International Corn Exchange, with a clearing-house system. A sufficient grain reserve with capital and the machinery necessary to keep the price of cereals precisely where the supply and demand indicates they should remain, would, it is believed, smash any corner that the forestallers and traders in substance might attempt to get up.

The Howe Scales have all the latest improvements. It is true economy to buy the best. Borden, Selleck & Co., agents, Chicago, Ill.



## Legal Notes.

### Membership in Produce Exchange.

Membership in the New York Produce Exchange is held to be an asset in bankruptcy available to creditors.—*Matter of Wender, United States Circuit Court, New Jersey.*

### Membership in Board of Trade.

A certificate of membership in the Chicago Board of Trade is not property liable to be subjected to the payment of debts of the holder by legal proceedings.—*Barclay vs. Smith, Illinois Supreme Court.*

### Contract for Commissions.

When one authorized to sell wool on commission produces customers ready and willing to purchase, he is entitled to commissions, although the principal refuse to deliver the wool. It is not necessary that the agent's contracts with the customers should be in writing, so as to bind them under the statute of frauds. After revocation of authority the revocation is a perpetual notice to the agent not to act for the principal. Where the agent claims that there was an express contract as to the percentages of his commissions, which is denied by the principal, evidence of customary commissions on such sales should not be rejected.—*Kelly vs. Phelps, Wisconsin Supreme Court.*

### Common Carriers as Insurers.

The Supreme Court of Alabama recently held, in the case of The Alabama Great Southern Railway Company vs. Little, that a common carrier may, by contract, stipulate for immunity from liability as an insurer, but not from negligence, and that the burden is on him to show absence or negligence. Such a limitation of liability, the court held, may extend not only to the risk or accident for which the carrier will be answerable, but to the amount of damages for which he is to be liable in the event of loss or injury when the purpose appears to be to secure a reasonable and just proportion between the amount for which he is to be liable and the freight which he is to receive.

## CARGO INSURANCE FROM CHICAGO.

The Chicago Marine Cargo Insurance companies, after a pooling contest among themselves since last spring, and after suffering heavy losses on wet cargoes and wrecked vessels, had, it was supposed, closed their war and decided to raise the insurance rates. The pool last year was a great success, and the net earnings exceeded the expectations. This year has been so far one of financial failure. A committee of apportionment representing twenty-six companies, held a meeting in the spring in order to form a pool. They found that four companies had already made season contracts at rates below those intended by the pool, and had already secured the business. This so called "Big 4" refused to comply with the request of the others, and a war with the general slashing of rates was the result. Rates on "A" vessels were placed at 20 cents to Buffalo, and a wide discrimination was made against "B" vessels. The "Big 4" responded with equivalent reductions. Later the rates were reduced 50 per cent. by the pool and correspondingly by "Big 4," until on Aug. 8 outside companies refused to comply. During the month of August the pool met with several severe losses, that more than counterbalanced their earnings, and the loudest agents weakened. The "Big 4" being out of the fight, the pool raised the prices on cargoes 350 per cent., but later it was reduced one-third. The new pool rates of Sept. 1 were on the basis of 35 cents per \$100 on "A" vessels to Buffalo. The "Big 4" had their September rates at 50 cents, but have notified shippers that they would resume business at the pool rates. This caused a large falling off in the latter's business, and on "the dog in the manger" principle, they held a meeting and decided again to reduce rates. The new rates went into effect on Sept. 6, and were accepted by the "Big 4." The rates on each \$100 are as follows:

	SAIL	
	A.	B1.
FROM CHICAGO—		
To ports on Lake Michigan.....	.20	.40
To ports on Lake Superior.....	.20	1.00
To ports on Lake Huron, Sarnia and Detroit River.....	.20	.40
To ports on Georgian Bay.....	.30	.40
To ports on Lake Erie.....	.25	.50
To ports on Lake Ontario.....	.50	1.00
To Ogdensburg.....	.55	1.00
To Montreal.....	.75	1.50
Add 10 per cent. on B1 steam.		

## General Items.

Grain merchants seldom indulge in short stories; they prefer cereals.

Nearly 102 bushels of oats were gleaned from one acre near Rock Rapids, Iowa.

A Milwaukee firm has compelled a Racine firm to pay a grain gambling debt of \$17,975.

At New York City the daily receipts of breadstuffs average about 28,000 barrels of flour, 330,000 bushels of wheat, 230,000 bushels of corn, and 110,000 bushels of oats.

The elevator being built by the L. C. Porter Milling Co., at Gary, Dak., is nearly completed, and will be done in two or three weeks. It is said that G. W. Van Dusen will build a large elevator at that point. It is thought that 300,000 and perhaps 500,000 bushels of grain will be marketed at Gary this season.

The shipments of grain from New Orleans during the month of August, this year, were 65,500 bushels of wheat and 368,802 bushels of corn, against 1,454,471 bushels of corn during same month last year. Stock in barges, elevator, and on shipboard, not yet cleared, 454,574 bushels of corn, and 150,260 bushels of wheat.

Mr. Walker, of the New York Produce Exchange, presents figures showing that the remainder of wheat in the country, after allowance for seeding and exports, has averaged 4.65 bushels per year per capita of population for the past five years, and in the same item says: "Considering all the facts in the case, four bushels is a liberal estimate for the per capita consumption of wheat in the United States." This is a rather curious conclusion to arrive at, after clearly demonstrating from the only data available on the subject exactly what this consumption has been.—*Price Current.*

The August crop report for Ontario has the following estimates:—Fall wheat is little over half of last year's crop; spring wheat a little better than last year; oats 10 per cent. better; rye about the same; and peas about 10 per cent. better. The estimate for barley is placed at 20,613,495 bushels this year, against 24,284,407 last year; but the *Whitby Gazette* challenges this, and puts the present crop at only 13,000,000 bushels. The crop of hay and clover is estimated at double that of last year, and the largest ever grown in the country; a circumstance which must tell on the yield of milk, the make of butter and cheese, and the condition of live stock.

Testimony to the superiority of Manitoba over the adjacent states in grain-growing capacity is furnished by some interesting returns published by the *Winnipeg Sun*. The average yield per acre of wheat and oats is given for 77 places in the Province, only one of which falls below 20 bushels of wheat, and not one below 40 of oats, the average for all the places being 30 and 57, respectively. The *Sun* adds the testimony of Mr. Kenneth McKenzie, a well-known and extensive farmer, who raised forty-one bushels of wheat per acre in 1877, thirty-six in 1878, and forty in 1879. Our contemporary wittily adds that in cyclones alone can the Northwestern States do better than Manitoba.—*Toronto Globe.*

In regard to the grain trade the *Public* (N. Y.) says: "Dealings in grain have revived considerably since the telegraph service improved, and the 'bulls' show that 'hope springs eternal in the human breast.' The outward movement is not large for the season, and there is especial complaint at San Francisco, where the ship owners have combined to demand higher rates than the dealers can afford to pay. The news from abroad is on the whole rather favorable for the crops, and the markets for home-grown wheat in England and France do not tend to support the views of those who look for a great demand and a rapid advance. That the crops in this country are at least as large as we can conveniently handle does not seem to be any longer denied; the hope of dealers is in a heavy foreign demand."

The history of wheat-raising in Minnesota is interesting. From 1858 to 1877 inclusive the average yield per acre in the state was seventeen bushels. In 1860, and again in 1865 the large average of twenty-two bushels was attained, and in 1877 in the counties in which grasshoppers did not ravage, an average of 19.77 was reached. After 1877, the average fell decidedly, and last year 13.81 was the general figure. Meteorological observers say that in the years noted, prior to 1877, the average winter temperature for the months of December, January and February

was 16.2 Fahrenheit. After 1877 the average rose to 20.5, until the winter of 1883-3, when an old-fashioned winter, as all can remember, was again noted. It was further observed that when the winters were cold continuously the summers were clear and bright, and the temperature and other climatic adjuncts favorable. From 1878 to 1882 there was much summer weather which the farmers stigmatize as "muggy" and unfavorable to heading, though productive of a heavy growth of straw. The good yields of the Red River Valley, during the later years, are explained by the meteorological theorists by saying that on the open prairies, where breezes blow constantly, the "mugginess" was not so apparent nor so dangerous as in the wooded country where rust and blight worked much of evil.

And now the barley buyers are bearing the market through the commercial and trade journals. It is about the time the new crop comes into market, and they wish to secure as large a share of it as possible before prices can rally. They say that there are large stocks of malt in New York City and State; that Western malsters have laid in large stocks of heavy, colored barley in anticipation of a failure in the present crop; that the stock of old barley in California and Canada is unprecedentedly large, and very naturally conclude the barley trade for 1884 is to be heavily handicapped by the general surplus. When this talk is so generally indulged in in barley circles, it is a pretty good hint to barley growers that it is a pretty good time to hold on a little for an advance in prices. The organs alluded to are likely to chant in quite another tune after the bulk of the crop has fallen into the hands of the brewers and speculators.

## Late Patents.

### Issued on Aug. 14, 1883.

MACHINE FOR SEPARATING COCKLE, ETC., FROM GRAIN.—Harrison Ogborn, Richmond, Ind. (No model.) No. 283,015. Filed July 5, 1883.

GRAIN ELEVATOR.—Amy Bardeen, Blackstone, Mass. (No model.) No. 283,189. Filed June 28, 1883.

GRAIN METER.—Geo. B. Lynch, Darlington, Ind. (No model.) No. 283,351. Filed May 19, 1883.

GRAIN WEIGHING AND BAGGING MACHINE.—James B. Pelton, Mount Pleasant, Md., assignor of one-half to Dawson E. Hammond, same place. (No model.) No. 283,018. Filed May 15, 1883.

### Issued on Aug. 21, 1883.

WEIGHING AND DUMPING MACHINE.—Jerry Morrow, Jackson, Ohio. (No model.) No. 283,641. Filed June 6, 1883.

### Issued on Aug. 28, 1883.

GRAIN DRIER.—Albert E. Chitler, Lima, Ohio. (No model.) No. 283,970. Filed April 27, 1883.

DUMP WAGON.—George M. Wallace, Yuba City, Cal. (No model.) No. 283,937. Filed June 5, 1883.

### Issued on Sept. 4, 1883.

ENDLESS BELT CONVEYOR.—Edward H. Parker, Eau Claire, Wis., and Clark Robinson, Hornellsville, N. Y.; said Parker assignor of one-third his right to said Robinson. (No model.) No. 284,324. Filed July 31, 1883.

CORN SHELLER.—Harmon W. Cornell, Owego, N. Y. (No model.) No. 284,388. Filed June 22, 1883.

GRAIN CLEANER.—John Russell, Berlin, Pa. (No model.) No. 284,489. Filed February 23, 1883.

GRAIN DRIER AND COOLER.—Winsor Beebe, Buffalo, N. Y. (No model.) No. 284,266. Filed January 15, 1883.

GRAIN ELEVATOR.—John E. Walsh, New York, N. Y. (No model.) No. 284,263. Filed Jan. 3, 1883.

GRAIN SEPARATOR.—Milton Farber and Timothy H. Pendergast, Dassel, Minn. (No model.) No. 284,405. Filed Jan. 10, 1883.

GRAIN SEPARATOR.—John Russell, Berlin, Pa. (No model.) No. 284,490. Filed Feb. 23, 1883.

HOPPER FOR GRAIN SEPARATORS.—James Root, Black's Station, Cal. (No model.) No. 284,333. Filed May 29, 1883.

DEVICE FOR OPERATING SHOVELS BY POWER.—Wm. D. Rinehart, Chicago, Ill. (No model.) No. 284,485. Filed July 19, 1883.

Over 200,000 Howe Scales have been sold and the demand is increasing continually. Borden, Selleck & Co., agents, Chicago, Ill.



## THE NEW WORKS OF THE LINK-BELT MACHINERY CO. AT CHICAGO.

The wide and increasing use of detachable link-belt for almost numberless purposes illustrates in a most striking manner the wide range of adaptability to human wants which a very simple and at first sight almost insignificant article may sometimes possess. A glance at a few links of detachable belting would probably impress the uninitiated simply that the inventor had contrived a very clever device; it would only dawn upon him after a little reflection or suggestion from others, that these few simple links were applicable to a variety of uses so great that every little while some new and important use for them is discovered. We seriously doubt if the inventor of it himself had an idea of the importance it would play in the mechanical world. It is not our purpose to attempt an enumeration of the uses to which link-belt has been applied; but its increasing use in elevators and all industrial establishments warrant us in giving it more than a passing mention. Among our own acquaintance we know of a number of instances where inventors and manufacturers have been helped over hard places by calling in the aid of the link-belt. So great has been the demand for the article that the LINK-BELT MACHINERY CO. found their facilities altogether inadequate to supply the demand, and they therefore determined some time ago to erect buildings of suitable size and capacity to meet the wants of their customers.

We give on this page an illustration of the new works of this company. They are located on Jefferson street, between Randolph and Washington, this city, in the center of the manufacturing district. The main building has a frontage of one hundred and eighty feet on Jefferson street, and is fifty feet deep. It is built of brick and

is five stories high. The basement, which is eleven feet from floor to ceiling, contains a Weisel & Vilter Corliss Engine of 125-horse power, with two boilers of capacity sufficient to supply steam to the engine and the entire building. The machinery is placed at the south end of the building, and occupies a space of forty-eight by fifty feet. The remaining 135 feet of the basement contains stock of link-belt, sprocket wheels, etc. On Jan. 1 this company had on hand wheels of various kinds and sizes to the number of 8,000.

The first floor, which is fourteen feet high, contains heavy machine tools of the most approved pattern. The second floor is occupied by the lathes, drills, punches, shears, smaller machine tools, etc., excepting a space of thirty-two feet at the north end, where is located the draughting and sample room. The third and fourth floors are intended for the manufacture of mill machinery, and to be used as a pattern shop. The entire building is lighted in the most perfect manner. The front and rear are of glass, except where the substantial piers support the floors. These piers are three feet square, built of brick, with Bond-stone every four feet. They are placed sixteen feet apart.

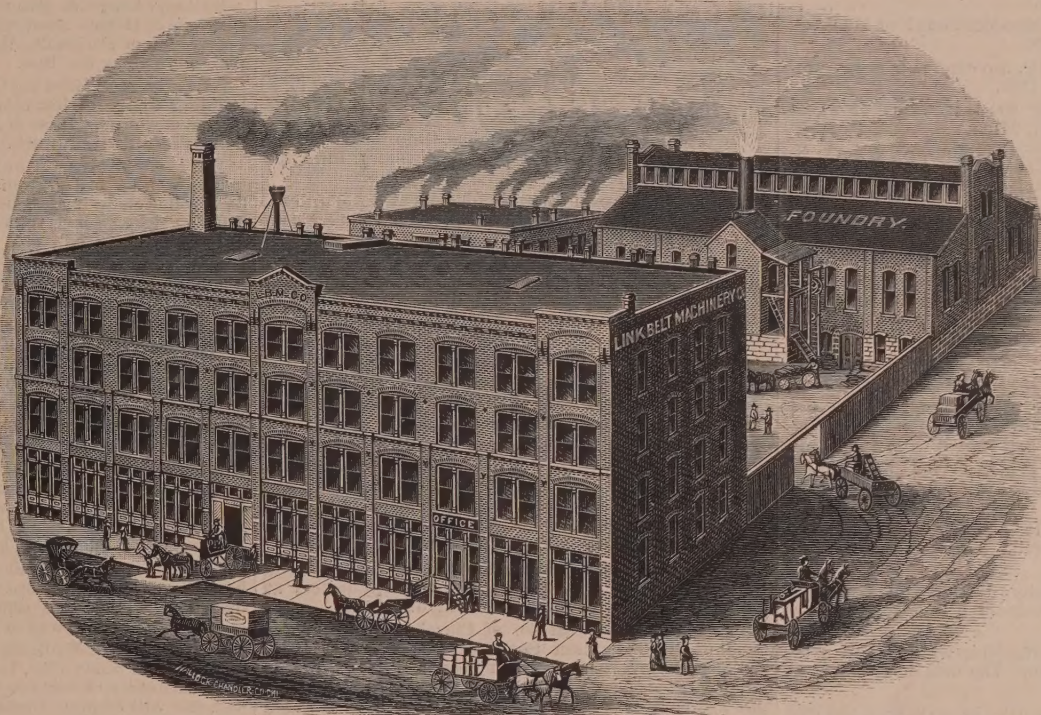
The foundry is located at a distance of one hundred and fifty feet from the rear of the main building. It is two stories high, and contains the latest improvements. Next to the foundry is the blacksmith shop, which is fifty by sixty feet in size, and provided with every convenience for the class of work to be done there. The office is in the main building on the Jefferson street frontage. All the buildings are of the most substantial character and their equipment of machinery leaves nothing

to be desired for the rapid and economical production of a high grade of work.

As indicating the importance which link-belt is assuming in the milling industry, we are informed that the sales of link-belt used in the construction of elevators, conveyors, etc., in 1882, amounted to over 300,000 feet, and that between five and six hundred flour mills have been supplied by the Link-Belt Machinery Co. during the past two years, as many as 5,000 feet having been placed in a single mill. With an article possessing such growing popularity, and the abundant facilities for manufacturing which they now possess, the company is to be congratulated on the prospect which its future promises.

## THE CALL SYSTEM IN SAN FRANCISCO.

The *San Francisco Journal of Commerce* announces with great satisfaction the amount of business done by the Produce Exchange during the year ended June 30, which includes the eleven months of the existence of the "Call System." The grand total is about \$37,400,000,



THE NEW WORKS OF THE LINK-BELT MACHINERY CO. AT CHICAGO.

of which the largest amount for any one month was in March a little over \$7,600,000. The total sales of the Grain Exchange for the year was about \$12,481,000, making the total business of the two nearly \$50,000,000. The wheat traffic of the Grain Exchange appeared to be the larger in the early part of the year, but the Produce Exchange soon far outstripped the former. The growth of the Call System was at first slow, but started up with the new harvest receipts after October; the principal business was done in barley. The uncertainties of the harvest "made wheat, however, a fair subject of speculation, and by the end of the year the sales had reached \$4,500,000 per month. There was then a lull, but March, a dry month, sent the figures up. Speculation, especially in barley, was wild, and after the market began to come down, some one who had purchased wildly during the rise lost their thousands of dollars at a single session." All the barley in the state was bought and sold many times over. This year, it is thought, wheat will take the lead. There was some rivalry between the two exchanges at first, and the Produce Exchange adopted a by-law prohibiting membership of the two at the same time; but its legality was disputed, while the adoption of the "call" by the old exchange obviated the difficulties. Attempts made to unite the two failed. The movement for procuring better quarters has for the present ceased, but will probably be renewed during the coming year. At a recent sale of seats \$1,000 were realized for a choice of position before the call. "We should not wonder," says the *Journal*, "to find that the sales of the next harvest year realized \$150,000,000, and that wheat was the principal article dealt in."

## SOME CALIFORNIA GRAIN WAREHOUSES.

The San Francisco Grain Exchange places the wheat yield of the present California wheat crop at about 53,000,000 bushels, while, by various estimates, the surplus for export will be in the neighborhood of 1,000,000 tons. This wheat, it is said, ranks in the Liverpool market next to that of Australia, which is relatively high. Facilities at points of shipment for handling this grain are being greatly increased. Port Costa, which receives the grain of the San Joaquin Valley at a lower cost to the farmer than at San Francisco, has a wharf 2,800 feet long, fronting on a depth of 25 to 30 feet of water, with a warehouse of over 1,500,000-bushels capacity. Eleven large vessels can be loaded at the same time, and the grain can be rapidly transferred from the cars to vessels. The wharfage is free, and the depth of water always abundant, irrespective of tide. Mr. McNear, the local "grain king," says the facilities there for railway and water transportation cannot be surpassed, and that present indications point to a good demand in Europe and an ample supply of grain. Mr. McNear has established

branch houses in Liverpool, London, Paris, and Antwerp. The Grangers' Business Association at Port Costa, has been very successful; their warehouses are said to have a capacity of over 20,000 tons, and they handled last year over 34,000 tons. All their wheat is shipped by vessels.

The Missouri Rock Grain Dock and Warehouses are said to be the largest devoted to grain purposes of any in the vicinity of San Francisco; ships can be loaded alongside the docks. The officers of the company are Oliver Eldridge, President; W. C. Gibbs, Secretary, and Chas. H. Sinclair, Superintendent. Their mammoth warehouses are located on an island, 600 yards from the city front, near the Pacific Steamship wharf, with a steam-ferry connection with the city. The area covered

by the property is fourteen acres, and is accessible to the largest vessels at low water on all sides. With this extensive grain depot is connected new improved machinery for cleaning wheat to Nos. 1, 2 and 3 standard, with a capacity of over 1,500 bushels per hour, and was the first on the Pacific Coast. The storehouse capacity is 2,500,000 bushels of grain.

Says the *Astorian*: Astoria, Portland and New Tacoma are interested in wheat shipments. On the assumption that the wheat yield of the Northwest will always be of great magnitude and be eagerly sought in Liverpool, "great expectations" arise in the minds of many. It is by no means certain that North Pacific Coast wheat will overshadow other productions. The constant cultivation of wheat impoverishes the ground, and sooner or later the Eastern Oregon and Washington farmer will learn to diversify his crop. The constant cultivation of wheat engenders the same spirit that any other form of gambling does, and a gambler's fate awaits the speculation. Again, it is evident from our geographical position that we can never expect to be a formidable competitor to India, Russia or Canada. The inexorable law of freights precludes the idea. It costs too much to get Walla Walla wheat to Liverpool to expect favorable results as compared with the illimitable areas now being opened up in British possessions in both hemispheres. These remarks apply purely to export. Our wonderful increase in population entails a correspondingly increasing consumption, and insures a home demand. The completion of a road to Astoria that should tap the Willamette Valley, will tend to equalize matters in this direction as much as anything else.



# Elevator and Grain News.

Hunterton & Small's warehouse at Webster, Dak., is completed.

Work has been commenced on a new elevator at Pine-gree, Dak.

A. H. King & Son, Batavia, N. Y., are rebuilding their barley house.

The Washburn Elevator, at Washburn, Wis., is to be built this fall.

A brewery with a capital of \$100,000, is proposed at Red Wing, Minn.

Work has been commenced on a 40,000-bushel elevator at Garry, Dak.

Two new elevators have been built this season at Brandon, Manitoba.

The Ogilvie elevator at Portage la Prairie, Manitoba, is nearly completed.

Messrs. Pillsbury & Hulbert are building a new elevator at Archerville, Dak.

Andrew Bros. of Brooklyn, Wis., have nearly completed their new elevator.

W. J. Findley, Toledo, Ohio, has lately increased the capacity of his barley house.

An elevator company has been organized at Mankato, Kan., with a capital of \$6,000.

The Milwaukee Elevator Co. has erected a large warehouse for grain at Andover, Dak.

During the past year over 200,000 bushels of wheat were received at Farmington, Minn.

F. W. Maullin, broker in grain options, New York, N. Y., has failed. His liabilities are small.

Henry Diehl, maltster at Buffalo, N. Y., is increasing his elevator capacity and adding new machinery.

Prosper Dabe, grain dealer, Versailles, Ohio, has made an assignment. Liabilities, \$20,000; assets, \$18,000.

Mitchell, Dak., is agitating as her latest improvement the building of an elevator of 25,000 bushels capacity.

A new elevator, named the Central Iowa, is being built at Peoria, Ill. It will have a capacity of 400,000 bushels.

The Harrison Conveyor Co. of Chicago, Ill., have sold to M. H. Thomas, Galveston, Ind., 200 feet of conveyor.

The Harrison Conveyor Co. of Chicago, Ill., have sold to W. H. Benedict, Vermontville, Mich., 150 feet of conveyor.

C. F. Shedd & Co., of Fairfield, Neb., have rented their elevators, and will engage in the stock business exclusively.

The partnership between Packard Bros., grain dealers at Brockton, Mass., is dissolved. Elmer C. Packard continues.

La Rue & Boag, grain dealers at Lockport, Cal., have dissolved partnership, the business being continued by J. Boag.

C. Risser has gone into partnership with Taylor Logan, grain dealer at Halstead, Kan. The firm name is Logan & Risser.

Norton & Co. of Lockport, Ill., have bought 150 feet of conveyor from the Harrison Conveyor Co. of Chicago, Ill.

Castel & Leyser, grain commission dealers, Meridian, Mass., have dissolved partnership. F. S. Castel continues the business.

L. G. Haynes & Bro. of Savannah, Ga., the largest flour, grain, and bacon dealers in the state, have failed for \$200,000.

The Bismarck Elevator Co. of Bismarck, Dak., are going to put in a 60-horse power engine and two boilers in their elevator.

Jacobus & Statler, grain dealers at Good Hope, Ill., have dissolved partnership. The business is continued by James Statler.

A. H. Mayne & Co., grain dealers of Council Bluffs, Iowa, have dissolved partnership, and are succeeded by Mayne & Palmer.

Wm. Thompson, Oconomowoc, Wis., has converted his flat warehouse into a steam elevator and intends adding new machinery.

Johnson, Whaley & Co., grain dealers, Providence, R. I., have dissolved partnership. John A. Whaley continues the business.

The Northern Pacific Elevator Co. are about to make an addition to their elevator at Wheatland, Dak., which will double its capacity.

Albert Ziegler & Co. of Buffalo, N. Y., are improving and increasing the capacity of their barley house by adding new machinery, etc.

During nine days' run of the elevators at Groton, Dak., 18,000 bushels of wheat were received, 4,500 bushels being received in one day.

Stuts, James & Neer, De Graff, Ohio, grain dealers, are giving their elevator a general overhauling and putting in new machinery.

The Harrison Conveyor Co. of Chicago, Ill., have sold Seeley, Son & Co. of Fremont, Neb., conveyors for the elevator of J. R. Wilson.

Articles of incorporation were recently filed at St. Paul, Minn., by the Sterrett Elevator Co. The incorporators are F. R. Sterrett, Wm. M. Merriam, E. U. Saunders,

Geo. T. Gibbs, and E. E. Mitchell, all of St. Paul. The capital stock is \$150,000. The company will do business at Minneapolis and St. Paul.

The new elevator of J. H. Musselman & Co. of Eaton, O., has been supplied with machinery from Thornburgh & Glessner, Chicago, Ill.

Mr. C. E. Olmstead, Dallas, Tex., has ordered 250 feet of conveyor for his new elevator from the Harrison Conveyor Co. of Chicago, Ill.

The Harrison Conveyor Co. of Chicago, Ill., have shipped to Dusey & Bro. of Clifton, Neb., conveyors complete for their elevator.

Wessmer & Co. of Grand Island, Neb., have bought of the Harrison Conveyor Co. of Chicago, Ill., conveyors complete for their elevator.

It is estimated that 800,000 bushels of grain will be marketed at Madison, Wis., this year. Last year the amount was 500,000 bushels.

The Harrison Conveyor Co. of Chicago, Ill., have furnished 300 feet of conveyor to Michael Seihaus of the same place for his malt house.

A dissolution of partnership has taken place in the firm of Baker & Schultz, grain dealers, Fortville, Ind. The new firm is Hogan & Baker.

The Harrison Conveyor Co. of Chicago, Ill., have an additional order from W. R. Wilson, Fremont, Neb., for conveyor for his new elevator.

The Harrison Conveyor Co. of Chicago, Ill., have shipped to Harrison & Adams, Central City, Neb., conveyors complete for their elevator.

A. Barth & Co. of New Albany, Ind., have purchased 500 feet of conveyor, to put in their tannery, of the Harrison Conveyor Co. of Chicago, Ill.

The Lechner Mfg. Co. of Columbus, Ohio, have received an order from D. Ogden & Co. of Martinsburg, Iowa, for a chain elevator for elevating grain.

Barron & Barrowman, grain dealers at Gordon, Ont., Canada, have dissolved partnership, each member continuing in the business individually.

Jno. C. Durgins, ex-treasurer of Montgomery Co. Ind., is reported to be short in his accounts to the amount of \$30,000 from speculation in grain.

Seeley, Son & Co. of Fremont, Neb., have bought of the Harrison Conveyor Co. of Chicago, Ill., conveyors complete for an elevator at Wahoo, Neb.

The Harrison Conveyor Co. of Chicago, Ill., have received orders from F. D. McMillan, Atlanta, Ga., for conveyors for his new cotton seed oil mill.

Smith, Lucas & Co., grain and provision commission dealers, Chicago, Ill., have dissolved partnership. Johnston & Lucas succeed to the business.

The Harrison Conveyor Co. of Chicago, Ill., have shipped to Jacob Williams, Seaford, Del., conveyors complete for his new elevator now being built.

W. Small, Jr., now conducts the business hitherto done by W. Small, Jr., & Co., grain commission dealers at Kansas City, Mo., the old firm having dissolved.

The Whitebreast Coal Co. of Cleveland, Iowa, have bought of the Harrison Conveyor Co. of Chicago, Ill., 350 feet of conveyor for handling coal and slack.

Thornburgh & Glessner of Chicago, Ill., have furnished the elevating and conveying machinery for the new elevator of C. & D. Ireland, at Fergus Falls, Minn.

Jno. Wieland, maltster, proprietor of the Philadelphia Brewery, San Francisco, Cal., is overhauling his barley elevator and putting in new cleaning machinery, etc.

The partnership of Sherman Bros. & Co., grain commission dealers, Buffalo, N. Y., is dissolved. The Sherman Brothers Company, limited, succeed the old firm.

Nordyke & Marmon Co. of Indianapolis, Ind., have sent orders to the Harrison Conveyor Co. of Chicago, Ill., for conveyors for two new elevators they are building.

Blue Earth county, Minn., has five large elevators; three at Mankato, one at Eagle Lake, and one at Lake Crystal, and large warehouses at all other railroad points.

Wm. S. Evans, grain dealer and forwarding agent of the St. Croix Packets at Hudson, Wis., is increasing the capacity of his elevator, putting in new machinery, etc.

The Goodlander Milling Co. of Ft. Scott, Kan., have ordered from the Harrison Conveyor Co. of Chicago, Ill., 300 feet of conveyor for the new mill they are now building.

The Lechner Mfg. Co. of Columbus, Ohio, have received an additional order from the Woodlawn Flouring Mill Co. of Wetmore, Kan., for their roller detachable chain.

Capron & Wolverton, proprietors of the Columbia Steam Mills and Elevator at Albany, N. Y., are increasing the capacity of their elevator and putting in new machinery.

The *Northwest Farmer* says: "Too much credit cannot be given the Ogilvie Milling Company for their efforts this season to handle the crop by their elevator system."

Excavation for the new elevator of C. E. Giles at Villard, Dak., has commenced. The capacity will be 40,000 bushels, making two elevators of the same capacity at that place.

Calvin Mooers, formerly superintendent of the Northwestern Elevator Co. of St. Paul, Minn., in connection with Mr. Thoms and Mr. Sheldon, under the firm name of Mooers, Thoms & Sheldon, are building two new elevators at Hamilton and Neche, Dak., on the Minneapolis

& Manitoba Railroad near the British line, and are putting in all the late improvements. Their specialty will be hard wheat for milling.

Messrs. Sampson & French are building an elevator of 6,000 bushels capacity at Woodstock, Minn. F. H. Peavey & Co. intend to put up a grain warehouse at the same place.

There are two elevators at Bird Island, Minn., with a storage capacity of 150,000 bushels. A large quantity of grain is annually shipped from that point to Minneapolis and St. Paul.

Strickland & Baker, grain dealers at Brownston, McLeod Co., Minn., have made an assignment. The liabilities are not known, but the assets are estimated at from \$10,000 to \$20,000.

A large force of men are at work on the elevator at Cooperstown, Dak. This formidable piece of masonry will be in the shape of an immense wheel, with stone hub, spokes and felly.

The Harrison Conveyor Co. of Chicago, Ill., have shipped 200 feet of conveyor to the Parsons Malting Co. of Sodus Point, N. Y., for handling barley from steep tubs to malting floors.

N. H. Warren & Co. of Chicago, Ill., have placed their order with Thornburgh & Glessner, of same place, for the entire machinery for a new elevator they are building at Harvard, Neb.

Kellogg, Lange & Miller's seven elevators along the Hastings & Dakota Road were recently sold to H. D. Pratt & Co. of Faribault, Minn. The firm is building nine more along the line.

Louis Bergdoll Brewing Co. of Philadelphia, Pa., are building a large barley elevator and will have it ready for the new crop. Haas & Parsons Co. of same city are doing the millwright work.

The Lechner Mfg. Co. of Columbus, Ohio, have recently received an order from J. Bruyeri, millwright, for their roller chain belting, to be used in the "Ravenswood Mill" at Ravenswood, W. Va.

J. W. Helm of Danville, Ill., has leased the elevator at Philo, and will occupy it as soon as Mr. Priest removes to the elevator at the mill. Wm. Freeman, the supervisor, will do the buying for him.

A new elevator is being erected at Waterville, Minn., by Mr. Alex. Kendrick in connection with the Polar Star Mills Co. of Faribault, Minn. When completed, it will have a capacity of 25,000 bushels.

The Harrison Conveyor Co. of Chicago, Ill., have received an order from N. R. Derby & Co. for 1,100 feet conveyor, 5,000 bushels capacity, for their new elevator now being built at Burlington, Iowa.

J. B. Canterbury is erecting a large elevator at Jefferson Junction, Wis., and will use the Excelsior Rivet Buckets and Corrugated Belt Bolts manufactured by Thornburgh & Glessner, Chicago, Ill.

The local paper of Sanborn, Dak., says that the Lenham Elevator Co. are more than insuring the growth of that place. They have established a real estate department, which is in charge of Geo. Lenham.

R. D. Hubbard, Mankato, Minn., has decided to build an oil mill at Sioux City, Iowa, costing \$80,000. It is to have a capacity of 1,200 or 1,400 bushels of flax seed per day, and will employ twenty-five or thirty men.

Isaac Rice & son, Kingston, Pa., are putting in steam in addition to their water-power. They will use a 40-horse power Westinghouse automatic engine furnished by the Westinghouse Machine Co., Pittsburgh, Pa.

Spellman & Co. of Peoria, Ill., have recently purchased the large glucose factory at Pekin, which has been idle for some months, and propose to convert it into a distillery with a capacity of 3,000 bushels of corn per day.

C. C. Scruggs, Denton, Tex., and W. H. Chamberlain & Co., Midlothian, Tex., are each building a new grist mill, and will use a 30-horse power Westinghouse automatic engine, furnished by the Westinghouse Machine Co., Pittsburgh, Pa.

The will of Frank Stewart of Stockton, Cal., who died on July 27, was filed in the Superior Court Aug. 10. The estate of the deceased is valued at \$400,000, and the widow is to receive one-half, and the residence and furniture valued at \$20,000.

A. W. Lawrence & Co., of Door Co., Wis., are building an elevator on the site of the grist mill burned in the spring. It is to have a capacity of 25,000 bushels, and to be run by steam power. The building will be completed in time for the fall threshing.

Messrs. Ketterhoven Bros., of Appleton, Wis., have made suitable arrangements with the Northwestern Railway Company for the location of their new elevator. It will be located near the Northwestern depot. The work of building will be commenced at once.

The Valley City, Dak., *Record* thus frankly speaks: "A new scheme for an independent elevator is said to be on foot. We crowed a couple of weeks ago over Uncle John Russell's supposed success in this line, and got left. Now that Uncle John has gone back on us, we will sit down and wait until we see something, before we say anything further."

Gafford & Co., grain and lumber merchants of Osceola, Ia., have commenced erecting a large elevator at Des Moines, and will have the structure ready for the machinery early in October. The elevator belts will be of 4-ply rubber, 24 inches in width, to which the elevator buckets, 23x7, will be attached. The belts, buckets, bolts and other machinery will be furnished by Thorn-



burgh & Glessner of Chicago, Ill., and the buckets will be made on the Excelsior pattern. The elevator will be one of the finest in the state.

The name of the Wabasha Elevator Co. of Wabasha, Minn., recently organized, has been changed to the Minnesota Elevator Co. Its capital stock is \$250,000, and the incorporators are W. P. Brown and C. H. Duryea, Red Wing; C. F. Rodney and G. F. Bensing, Lake City; and J. G. Lawrence of Wabasha. The company owns twenty-three elevators and are negotiating for more.

The Lechner Mfg. Co. of Columbus, Ohio, have recently made shipments of roller detachable chain belting to be used for elevators, conveyors, and driving purposes, to the following parties: J. D. Owen, Sylvania, Pa.; C. M. Conradson, Madison, Wis.; Howe & Dill, Gahanna, Ohio; Armor, Smith & Son, Baltimore, Md.; Crocker, Pell & Boardman, Minneapolis, Minn., and others.

H. M. Maltbie, grain dealer at Hinckley, Ill., has failed. He and E. H. Price ran three elevators, one at Hinckley and the other two at Big Rock and Sugar Grove. His debts are estimated at between \$75,000 and \$100,000, with but few assets. Mr. Maltbie was highly esteemed and had received many trust sums of money; his failure has dragged down a number of others.

The elevator of the L. C. Huck Malting Co. of Chicago, Ill., which was destroyed by fire several weeks ago, has been rebuilt on an extensive scale. The new elevator is a model one in every respect and provided with the very best machinery. Thornburgh & Glessner, of same place, were awarded the contract for three Excelsior Round Bottom Buckets and Corrugated Belt Bolts.

The terrific cyclone that visited Rochester, Minn., and vicinity on Aug. 21, destroyed, as estimated, \$300,000 worth of crops, of which a large proportion was grain. The elevators of Van Dusen & Co. and H. T. Horton were destroyed, with a loss on the former of \$10,000, and \$7,000 on the latter. The Cascade Mills, and also the flour mill of J. M. Cole were destroyed; the latter was full of wheat. Mr. J. M. Cole, proprietor of the above mill, was hurled to the ground and killed, having every bone, as is said, broken.

R. D. Hubbard & Co. of Mankato, Minn., operate in connection with their mill an elevator 40x136 feet with a capacity of 175,000 bushels. This firm also leases and operates the large elevator of the Chicago & Northwestern Railroad, giving them a total storage capacity of 250,000 bushels. The mill is capable of turning out 800 barrels of flour daily. From 80 to 100 men are employed in the mill and cooper shops. R. D. Hubbard and F. L. Waters, the proprietors, are recognised among the leading business men of Southern Minnesota.

The Village Mill Co. of Village, Tex., have made a new departure in fitting up their mill. Instead of driving all their machinery from one engine and one line-shaft, getting their speed by means of countershafting in the usual way, they are driving some of their special tools, as the heavy surfacers, etc., by a small independent engine coupled direct to the countershaft of the planer. The engine is the Westinghouse special engine with cylinders 7x5, and makes 800 revolutions per minute. An exhaust-fan is driven from a second pulley on the same engine.

Mr. Hiram Sibley, the well-known seed dealer of Chicago, Ill., recently purchased the land lying between Clark street and Dearborn avenue, and the river and railroad track, upon which he is about to erect a warehouse covering the whole ground, six stories in height, which will nearly equal the Farwell building on Market street. The three main sides will be of Anderson pressed brick, and the east wall of common brick. Mr. Sibley will occupy a large part of the building and the rest will be for storage purposes. It is intended to commence work about Oct. 1, and to have the building ready for occupancy by Jan. 1.

At a recent meeting of the Board of Trade, of Duluth, Minn., a committee was appointed, consisting of W. T. Hooker, president of the board, Col. C. H. Graves and Geo. Spencer, to wait upon the officials of the Manitoba and Northern Pacific Railroads, with reference to the present agitation in relation to grain rates. The committee was accompanied by J. G. Adams, representative of David Dows & Co., and a member of the Duluth Board of Trade. The committee simply requested that no change be made in the grain rates, and that the Duluth market be granted the same footing for competition it has always had. They were informed that no changes were contemplated.

The discussion still goes on in regard to the rival advantages offered by Winnipeg and Port Arthur respectively as the center of the proposed extensive C. P. R. elevator system. There is really no reason for Winnipeggers to fear an elevator system at Port Arthur, but, on the contrary, one there would be of immense advantage to grain men in this city. All that is necessary is that the C. P. R. give to both places equal advantages with towns farther west in the matter of through freight rates, and two prosperous and remunerative systems of grain storage must grow up, one in each town, each of which must as a matter of necessity be dependent to a great extent upon the other, and co-operate for mutual interests. The handling, loading, and trimming of grain going by lake is a branch of trade which must prove of great value to Port Arthur, and must necessitate considerable grain storage facilities for its working. This will in no way interfere with the grain interests of Winnipeg, except advantageously, and on the other hand Port Arthur must profit by having a city like Winnipeg acting as a huge collecting agency for grain that must of

necessity go to the Atlantic through that port.—*The Northwest Farmer.*

On the West bound train one day last week Mr. G. M. Bennett met Mr. A. J. Sawyer, elevator builder on the Little Falls & Dakota Railroad, and in conversation with that gentleman learned that he was willing to build an elevator at this place provided a suitable site was gratuitously given for that purpose by this city. Acting upon Mr. Sawyer's proposal, a meeting of our citizens was called, and steps taken to procure a site. The vacant lot opposite the depot on the west side of Main street was considered the most suitable place for the elevator, and a subscription paper was at once circulated among our business men. The site is owned by a Mr. Sweet, of St. Cloud, and \$600 is the amount asked. About \$450 of that amount has already been subscribed, and there is every reason to feel assured that the entire sum will be raised this week. The opportunity is too valuable to be lost by our citizens, and we trust that every business man interested in the welfare and prosperity of Sauk Centre will respond heartily to the call.—*Sauk Centre Tribune.*

Volga, Dak., which at last reports was cutting a splendid crop of barley, is assured of a large crop of wheat with an estimated average yield of 20 bushels per acre, many fields going as high as 25 to 30 bushels. Mr. Chas Keith, formerly representative of G. W. Van Dusen & Co., has resigned, and will build a warehouse at once in order to handle the grain crop, etc. Wm. M. Nichols, county treasurer, has commenced the erection of a grain and coal warehouse. Wm. Fisher & Co. will also build a large warehouse in which to handle grain and oil. This will give Volga five good grain warehouses and make it the best wheat market on the line of railroad between Tracy and Pierre.

The large new elevator in conjunction with the Ogilvie Mill in this city is now completed, and is one of the most perfect in the Northwest. It has a capacity of 135,000 bushels of grain. The company have also recently erected one at Brandon, also at Gretna and Virden, besides warehouses at Manitoba City and other points. The outside elevators will have a capacity of 40,000 bushels each. Last year the company had the timber hewed on the American side of the line, and had to pay duty on it when they brought it into Canadian territory. This gave them a pointer, and this season they have profited by it, bringing the logs over the line in the rough. The company intended to erect a large elevator at Manitoba City, and applied to the Council of the Municipality of Lorne for exemption from taxes for a term of years, but were refused the exemption. In consequence of this, they concluded to erect only an ordinary warehouse at that point.—*Northwest Farmer.*

The San Francisco *Alta* says: President Villiard is going into the erection of grain elevators at Portland, Walla Walla, and Puget Sound. He appears to think that we are very backward on the Pacific coast and need to be supplied with Eastern ideas in the grain business; but it is possible he may find his elevator speculation a failure. Ship masters and owners do not believe that grain can be safely shipped in bulk around Cape Horn, and unless it can, there is no call for elevators. Nearly fifteen years ago an elevator was erected at Vallejo, but it stood unused, except for the storage of a little wheat, until it rotted and fell down. It has never been rebuilt, because the investment had been a losing one, experiment showing that there was no demand for such a structure. Commenting on this, the Walla Walla *Statesman* says: As we understand the situation, the proposed elevators are not to be erected for the purpose of shipping grain in bulk around the Horn, but will seek a direct route overland by way of the Northern Pacific. We can also inform the *Alta* that the principal reason for the rotting of the elevator at Vallejo is the "Plimssoll Act" which prohibits British ships from carrying grain in bulk, and as nine-tenths of the carrying trade of the coast is carried in British bottoms, and they are not available in this case, there is naturally no use for elevators in California.

Says the *Herald*, of Sauk Center, Minn.: "It seems to be a settled fact that a first class elevator will be erected at once on the line of the Little Falls & Dakota Railroad, to be operated by A. J. Sawyer of Duluth, in connection with his chain of elevators located along the line of the Northern Pacific and its branches. Mr. Sawyer has agreed to build such an elevator providing the citizens would give him a suitable site. It is proposed to locate it on the ground opposite the depot on Main street, where it will be convenient both for farmers and the railroad company. The matter was taken hold of in good earnest by our leading business men, and the indications are that the requisite sum will be subscribed. This will insure a competing market between Minneapolis and Duluth buyers, and gives the village an advantage over every other market within a radius of fifty miles."

\* Mr. N. Hoople is cleaning up for the new crop. He has about 2,000 bushels of old wheat in the elevator, and will not operate his mill until the new crop is in market. It is his purpose to make some changes in his elevator for the more expeditious and convenient handling of wheat. He will also add more new machinery to his mill, increasing its capacity 50 per cent."

The preliminary official estimate of the wheat crop of France is 283,800,000 bushels. The crop of last year was 346,671,000 bushels. The crop of the United States will also fall largely short of last year. On the other hand, there is a large surplus of stock on hand. The London *Miller* estimates the surplus stock of wheat and flour in the United Kingdom as equal to 43,000,000 bushels of wheat. At the same time there is a large movement from other exporting countries.

## Fires, Casualties, Etc.

An extensive fire occurred at Arcadia, Iowa, at midnight of Sept. 3, in which a warehouse was destroyed containing 2,000 bushels of grain.

A fire broke out in Benedict's elevator at Cedar Springs, Mich., on the night of Sept. 6, destroying, with adjoining buildings, over \$30,000 worth of property.

Stevens & Stone's elevator at Irwin, Iowa, burned on the morning of Aug. 29, together with 28,000 bushels of wheat. The loss, which was almost total, was about \$6,200; insurance, \$1,200.

The immense elevator of Trow & Co. of Madison, Ind., containing 100,000 bushels of wheat, was totally destroyed by fire at 3 o'clock a. m. on Aug. 24. The loss was \$125,000; insurance \$60,000.

Wilson's elevator at Gibson, Ill., containing 7,000 bushels of grain, was burned on Aug. 24. The fire is supposed to have been caused by a passing locomotive. The loss was about \$8,000; insurance \$3,000.

The elevator of Mr. Whele, operated by S. M. West at Faribault, Minn., was burned on the morning of September 6, supposed to be the work of an incendiary. It contained 1,000 bushels of wheat. Loss, \$10,000.

The elevator and cribs of Myers & Lewis at Lewis, Iowa, were burned on the night of Aug. 29, with 2,000 bushels of wheat, 3,000 bushels of corn, and 7,000 bushels of oats. The elevator was insured, but not the grain.

C. A. Bennett, a grain and produce dealer of Humboldt, Iowa, committed suicide on Sunday, Aug. 26, by shooting himself with a revolver. He had met with heavy losses and had been despondent for some time.

Fire was discovered in the warehouse of Wm. Shaffer of Fairfield, Ill., at 2 o'clock a. m. on Aug. 15, and entirely destroyed it. The warehouse contained 1,000 bushels of grain. A coal oil can was found near the building, showing the fire to be the work of an incendiary. There was no insurance.

The large wooden building used as storehouse for Klump's Brewery, Germantown Road, Philadelphia, was destroyed by fire at 2 o'clock a. m. September 10. The place was operated by Frederick Henninger who resided in the building, and says that there was no fire in the building and that it must have been the work of an incendiary. The loss on brewery was several thousand dollars.

A fire was discovered in the Northern Pacific Elevator at Lisbon, Minn., on the evening of Sept. 9, and in less than two hours the whole structure, valued at \$25,000, and containing 5,000 bushels of wheat was destroyed. The building and contents were insured. Work will be commenced for the erection of another building as rapidly as possible. Meanwhile, a temporary warehouse will be constructed, and grain received as usual.

The elevator of McCord & Decker of Columbus, Ohio, was discovered to be on fire about half past 2 o'clock a. m. Sept. 7, and was totally destroyed. This firm had occupied the house for the past two and a half years and they had about 10,000 bushels of grain on hand, some flour, a large quantity of mill feed, with wheat, oats, rye, and corn in the ear and shelled. They were insured for \$8,000. The elevator building was owned by A. C. Dorner, is said to have cost about \$20,000, and with machinery was insured for \$10,000.

A vacant grain warehouse, owned by the C. M. & St. P. Railroad at Winona, Minn., was burned at 3 o'clock a. m. on the morning of Aug. 20. It was a frame structure on stilts, with an elevated railroad leading to it. The fire originated on the inside, and was supposed to be either the work of tramps, or caused by a locomotive spark. There was nothing in the building except two pairs of platform scales owned by Mr. O. Sontag, and underneath the building some forty barrels of salt. The building was valued at \$2,500, and was insured.

Mr. A. Chapman, of the firm of Chapman Bros., at Toronto, Can., recently had a remarkable escape from death. He was examining the wheat in a bin while it was being emptied through a spout at the bottom, and while so employed became conscious of being drawn downward. He grasped a beam, but the power drawing him tore his hold away, and he sank. In two minutes the wheat closed over his head. When he recovered consciousness he found himself blocking up the spout, with his head forced forward till it touched his knees. His body had hindered the escape of the wheat, thus allowing the air from below to reach him. The wheat was still running slowly, and in a short time his head was above the level, and his situation was discovered, and he was rescued. He has quite recovered.

## MILWAUKEE GRAIN INSPECTION.

The supervisors of grain inspection propose the following amendment to the inspection rules:

Wheat—No. 3 spring shall include wheat reasonably sound, not sufficiently clean for No. 2, and weighing not less than fifty-four pounds to the measured bushel.

Corn—No. 2 shall be dry, sound and reasonably clean, but not plump enough for No. 1.

Barley—Scotch barley shall be graded as such according to the requirements applied to Nos. 1, 2 and extra No. 3 barley of other varieties.

Resolved, That the grain inspector be and is hereby instructed to interpret the inspection rule for extra No. 3 barley more rigidly, so as to exclude from the grade the poorer class of barley which has heretofore been admitted into extra No. 3.



## Canals and Marine.

The Chicago Grain-Trimmers Union have organized and fixed rates for sail vessels at \$1.50 per 1,000, and for line steamers at 75 cents per 1,000 bushels. Mr. Gordon, agent for the Anchor Line, refuses to pay the advanced rates, and his boats were recently loaded by his deck hands. The members state that all the other lines have acceded to the rates.

The grain shovellers of Kingston, Ont., have formed a union and recently fixed the rates at \$2.50 per 1,000 bushels ordinarily, and \$4 per 1,000 when heated. The forwarding companies are annoyed at this dictation, and are negotiating in regard to the use of steam shovels. Mr. Albertson of Buffalo, N. Y., after examining the elevators and machinery there has pronounced everything adapted to their use. They will probably be attached at once and will enable five men to do the work of eighteen as at present.

The following argument is used by the Portland Oregonian in favor of the shipment of wheat by sail vessels: "The four or five months consumed by the vessel in making the trip avoids a certain amount of wastage that an overland trip would cause, and is just about as cheap storage as warehousing. The sail route allows the wheat to reach market at a time when the most of other producing countries are not placing their product on the market, and as consumption is gradual, wheat would have to be stored somewhere until such time as needed. It is also an exceptional season when ocean freights are so high that the overland route could successfully compete with them. The completion of the Northern Pacific will not change the status of our foreign wheat-shipping trade, but we may be able to send some wheat toward the lakes for milling purposes."

During July wheat was carried by canal and river from Buffalo to New York, a distance of 500 miles, for 3½ cents per bushel, about \$1.16 per ton, which is a charge of less than 24.100 of a cent for carrying a ton of freight one mile. But better than that by far is the charge made for transporting outward-bound freight. Merchandise has been transported from New York to Buffalo during the present season by river and canal for 60 cents per ton, which is a fraction more than 12.100 of a cent for carrying one ton of freight one mile, or, in other words, is carrying one ton of freight eight miles for one cent. These figures show at a glance the value of the canals as a regulator of prices for the transportation of freight. It seldom occurs to the observer when he witnesses the barefooted canalers plodding along behind a pair of mules which are towing a canal-boat containing 8,000 bushels of grain that the craft contains 240 tons of freight, equal in amount to a train of 24 cars with 10 tons each, and that the canaler with his old pair of mules and sluggish-looking craft is running a fierce opposition with Vanderbilt, Jay Gould and the railroad magnates of this country. Yet such is the fact.—*Albany Argus*.

An incident occurred the other day that illustrates the importance of the canals and also the necessity for better canal facilities—or in other words an enlargement of the canal system. The *Herald* tells us that several days ago a lot of grain arrived at New York that had come all the way from Chicago by water, yet had been only two weeks on the way. From Chicago to Buffalo it moved by steamer; from Buffalo it was forwarded in a barge and a steam canal boat, the latter pushing the former. As the canal locks are arranged for single boats the two crafts were obliged to uncouple, otherwise the entire time of the grain from Chicago to New York would have been but little more than is sometimes consumed by railroad freight between the same points. Had the canal been even a single foot deeper the boats could have moved faster; had it been two feet deeper their capacity, as well as their speed, would have been much greater. Our contemporary also says that members of the Legislature should master these significant facts; then they should run up to Canada for a day and note the size of grain boats that go from the lakes to Europe via the Welland Canal. Then they will realize that some important work is waiting for them if they have brains and honesty enough to attend to it.—*N. Y. Produce Exchange Bulletin*.

The most forcible argument that can be used in favor of free canals is the wonderful increase in traffic on the Erie since the tolls were abolished. Reports from Superintendent Shanahan show at the close of August even a more remarkable increase in the tonnage transported on the canals than was reported at the close of July. The increase during the four months of the canal season as against the same months last year fifty represents the gains of the free system over the toll system. The following table shows the figures transported (in tons) each week of the two years:

	1882.	1883.		1882.	1883.
May 14.....	147,104	224,772	July 22.....	191,750	175,356
May 22.....	195,225	173,237	July 31.....	217,559	223,425
May 31.....	220,817	205,492	Aug. 7.....	183,069	234,971
June 7.....	154,492	198,962	Aug. 14.....	187,914	181,336
June 14.....	165,098	188,844	Aug. 22.....	201,375	221,796
June 22.....	189,914	199,453	Aug. 31.....	234,285	365,055
June 30.....	194,018	246,085			
July 7.....	143,615	171,112	Totals.....	2,773,832	3,170,631
July 14.....	147,787	162,737			

This shows an increased tonnage under the free system of 396,799 tons. At this rate the canals by the 1st of December will have carried 6,500,000 tons. Among the staples which show the largest increase is wheat, of which, during a season when railroad managers com-

plain that the crops are not moving in any quantity, the canals carried eastward over 24,000 tons more than they did last year—an amount representing 165,000 barrels of flour. Corn, rye, oats and barley also show an increased tonnage, while anthracite coal, almost as much of a necessity to life as the cereals, has an increased tonnage of 44,264 tons.

## MAKING BREAD DEAR.

BY HENRY D. LLOYD IN NORTH AMERICAN REVIEW.

(Continued from last month.)

The "wealthy criminal classes" have been quick to seize on the Exchanges, at the risk of breaking them down, as the best of all instruments for depredation. With the machinery of the Liverpool Cotton Exchange a year ago they stopped fifteen million spindles and took away the livelihood of thousands of men, women and children. Hardly a month passes on the New York Produce Exchange, one of the witnesses said before the Legislative Committee investigating corners, without a corner or a squeeze. But it is the Chicago Board of Trade which offers the largest and the favorite field for the cornerer. It is willing to give or take unlimited quantities at the figures it makes. It can put the combination of rich men in instant possession of the crop that is in market, and of contracts for all that is to come. The morale of the Board permits the millionaires who have solicited these contracts, and "foreclosed" the market for the purpose of making others break them, to put prices to any height in order to exact fatal damages from their victims. It is the code of honor among wolves that no high-minded lamb will squeal. The same class that administers trusts for the trustee, runs corporations to wreck the small capitals they were intended to consolidate, and finds only a private use in public franchises, is burrowing into the Board of Trade to kill trade. The passion for enslaving, forbidden by a squeamish civilization to buy men, finds a vent in capturing the raw material of human life.

Corners used to come on the Board of Trade once in a year or two. Now there are corners almost all the time. The Chicago corner used to be the venture of some local Titan, and was felt only within the then provincial jurisdiction of the Board. Now, it is often the cosmopolitan work of the combined capitalists of half a dozen cities, and its effects, as the *London Times* said of the pork corner of 1880, are felt in advancing prices all over the world. When six million bushels of wheat were handled by a syndicate, ten years ago, it was felt in predatory circles that the civilization of the nineteenth century had about reached its grandest heights; but sixty million bushels of corn and twenty million bushels of wheat are now pocketed almost without exciting remark. Corners generally used to fail; but the accumulated experience of many collapses has not been in vain. Such mistakes are not now made as that of the wheat corner of 1872, which was begun in the face of the harvest and was drowned out by the rush of wheat from the farmers, who dropped all other work and dried their green wheat in stoves, pots, tin cans, anything in which it could be heated, with the result of forcing down prices on themselves forty-seven cents in twenty-four hours. Now, while the farmers are selling, the markets are kept down. It is after the crops are out of their hands that the manipulators put prices up. The corner of last July followed upon the smallest surplus the farmers have had in their hands for many years. The Board has sometimes had rules to prevent corners, but with the beginning of this year the corner rule was abolished through the influence of the wealthy operators. The radius of the combinations of capital to corner the crops is lengthening year by year. The great corner is still to come.

The late disastrous shortages of the crops of Europe caused the machinery of the Board to be promptly set in motion. A series of corners in wheat, pork, and other articles began, which have not yet ceased, and have produced almost every kind of evil. The wheat corner of 1879 was commanded by a New Yorker. It began with an inspired chorus of prophecies of low prices, which continued as long as the clique were buying of the farmers. The price was run down to eighty-one and a half cents a bushel. When all the wheat and wheat contracts to be had were obtained, the price was raised to one dollar and thirty-three cents. In every way the results of this corner were deplorable. The markets were crazed. The cliques held, according to their own statement, twenty million bushels, and, according to the estimate of close observers in the trade, seventy million bushels. At one time, their wheat was piled up in the elevators and on the railroad tracks, intentionally stopping the way, so that no other wheat could be got to market by the farmers and dealers. Wheat was refused to exporters at prices they could afford to pay. The English buyers went to Bombay and Calcutta; and the East Indies, which sent their first sample to Liverpool not ten years ago, have, in consequence, taken a place next only to us in supplying the British market. During the winter, four hundred vessels lay for months in New York harbor, the owners pleading for wheat, even at ruinously low rates. Many of them ran into debt, and the majority of them finally had to sail away to seek cargoes elsewhere. When the time came to dispatch this wheat from Chicago and New York to Europe, to put it out of the way, the head of the clique said to the railroads: "I will give you so many million bushels to carry; if you do not take it at my rate, I will ship it all by lake in the spring." The cutting of rates which ensued was one of the irritating causes of the war that followed among the trunk lines. In the same way syndi-

cates have repeatedly forced the navigators of the lakes to take such rates as they chose to pay, for there was no one to compete with the engrossing shipper. Transportation, overtaken at one time and at another idle, is hopelessly deranged; and all the banking and other business that must attend the movement of the crops goes by fits and starts. Three out of every four flouring mills of the country were kept idle for two months. One of the oldest members of the Produce Exchange prepared for the Legislature an estimate that this syndicate, by not selling, and by not letting others sell, and by fleecing those who had been inveigled into dealing with them, and by the injury that had been done to the millers, the shipping interest, the exporters, and the consumers of flour, had caused a loss to the country of not less than three hundred million dollars.

The pork corner, which came at the same time as this in wheat, was described as follows by the *London Times*: "Amid the turmoil of the Presidential election, there has been closed one of the largest and most successful speculations which has ever excited the brain of Chicago—the Armour pork corner. Its influence in advancing prices was felt in every part of the world. A Chicago dispatch of Nov. 5, says: 'In July, 1879, after one member of the firm of Armour & Co. had returned from Europe, where he had been taking observations of the pork market, the firm began buying pork (at eight dollars a barrel) and in December, when it had risen to fourteen dollars a barrel, closed out, making a profit of two million dollars. Not satisfied that it had reached the highest price, they continued buying until pork had dropped to nine and a quarter dollars a barrel, absorbing their profit and an additional million. In April of this year they again began buying at ten dollars a barrel, and bought up three hundred and fifty thousand barrels of pork, and one million two hundred and fifty thousand barrels of futures. For the last three months they have been closing out their gigantic purchases at prices ranging from sixteen to eighteen and a half dollars. They cleared over seven million dollars on this deal, and are winners on the two deals to the extent of six million dollars.' There are giants in these days, and their caves are in the Exchanges."

The price of pork was more than doubled, flour was put up an average of two dollars a barrel, and beefsteak at least one cent a pound, as the result of these manipulations. This increase in the cost of living has not subsided. Pork and meat continued to advance. They were higher the next year, and higher still last year, when pork sold for twenty-four dollars and seventy-five cents a barrel. Wheat, too, though it has fluctuated violently, has remained in the hands of the manipulators, and every year since the corner of 1879, the average price the miller has had to pay has been higher than that of the year before. The universal strikes into which the laboring people have been forced in the last two years are traceable directly to the increase in the cost of living, which these corners have done so much to produce. The loss from these strikes has been incalculable. That at Pittsburgh alone is estimated to have cost us at least ten million dollars. The following sentence is from a petition to Congress to which a member of the Produce Exchange personally obtained the signatures of "a thousand substantial men": "As only men of large means or extensive credit are capable of engaging in these enterprises, they become essentially an array of capital against the industrial classes, wherein the banks and moneyed institutions are almost invariably drawn to the support of the former against the latter."

This is the communism of the syndicate, and it is the only communism the United States have yet produced.

One summer afternoon, a year ago, as a party of Chicago business men were idling in their yacht over the cool waters of Lake Michigan, one of them pointed out a great lake propeller shouldering its way eastward. "There goes some of our 'corner' wheat to Liverpool," he said. Propellers, sailing vessels, railroad cars were hurrying millions of bushels away from Chicago to put it out of the reach of the millers, the exporters, and the traders on the Board. It must, at any cost, be made scarce and dear for everybody. It was wanted for flour and as the stock-in-trade of the Board. But, as far as the bread eaters and the traders of this country were interested, it was thrown away, as the Dutch threw away the spices of the Moluccas. Such of it as Liverpool would take was sold at an average loss of ten cents a bushel, in order to extort twenty cents a bushel from the American consumer. Much of it lay for a long while stored in England unsold, while the working men and women from one end of the United States to the other questioned whether it is better to work for wages on which they cannot live, or not to work at all. One of the "business" men of New York testified before the Corner Committee, that he sold corn to go to Europe for twenty-five cents a bushel less than he made the buyers in New York pay him. Another member of the New York Produce Exchange said that he had seen the agents of the cornering cliques standing at the doors of the flour mills bidding away the wheat that was needed for bread. None but a free people would submit to such wrongs.

A great many, perhaps a majority, of the farmers believe that to them, at least, corners are beneficial. They see only the high prices, though these usually are made after the grain has left their hands, or when they cannot get it to market because the wheat of the clique stops the way. During the Chicago wheat corner of 1872, the elevators combined to rent out their bins and keep them empty in order to prevent any more of the farmers' crops from coming to market to embarrass the cornerers. High prices were paid during a short-lived excitement, but they were more than offset by the break that followed. The men most injured in that corner, aside from the con-



## Railway Intelligence.

It is understood that the Chicago & Alton and the Illinois Central have canceled their notices of withdrawal from the St. Louis freight pool, and that an understanding has been arrived at by which the present agreement is to continue in force until June 1.

The Chicago committee of the East-bound freight traffic pool has agreed to accept Commissioner Fink's recent proposition regarding the equalization of percentages, recommending that grain, flour, feed, ores and other heavy freight for local consumption at Boston, New York, Philadelphia and Baltimore should be diverted, and an effort made to equalize the percentages as nearly as possible in that way. A circular to that effect has been issued to shippers.

Eighteen years ago it was a problem whether grain could be profitably handled from Chicago to New York by rail in competition with the Erie Canal, the lake and the Hudson River route. But during 1882 about 80.2 per cent. of the total receipts of grain at Atlantic ports was by rail and only 19.8 per cent. by water. In 1869 the rail rates from Chicago to New York ranged from 30 to 42 cents per bushel, but during nine months of 1882 the rate was 15 cents per bushel, and the average for the year was 14 6-10 cents. The reduction in the rates by lake and canal from 25.3 in 1868 to 8.7 in 1882; in the rates by lake and rail from 29 in 1868 to 10.9 in 1882, and in all rail rates from 42.6 in 1868 to 14.6 last year, was the direct result of competition between various roads and between roads and water routes.

It is stated that the New Hampshire Senate Judiciary Committee has under consideration a bill incorporating what may be called the Southern Pacific Company, by the provisions of which any railroad or steamboat line or lands in the United States may be purchased by the company with the right to increase its capital stock to an unlimited extent by vote of parties interested. The corporators named are Charles Pierce, C. Crocker, M. Hopkins, and Isaac E. Gath, attorney for Gov. Stanford, who are said to control the California system. Pierce, who testified before the committee, stated it was proposed, if the bill became a law, to consolidate the Louisiana, Western Texas & New Orleans, the Harrisburg & San Antonio, the Houston & Texas, the Texas Central, and other railroads, as well as steamboat lines, having an aggregate capital of upward of \$50,000,000, besides owning 6,000,000 acres of land in Texas.

Articles of incorporation of the Minneapolis, Sault Ste. Marie & Atlantic Railway Co. were filed at Madison, Wis., in August. The object of this company is to construct a road from Minneapolis to some point on the St. Croix River, and from thence across the state of Wisconsin and the upper part of Michigan, to connect with a road now being built by capitalists of the latter state to the Sault Ste. Marie. At the latter point the road will connect with the Canada Pacific, and thus with the whole Canadian and New England railroad systems. The incorporators number among them the most substantial business and railroad men of the Northwest. This matter of giving this region a new seaboard route has been under consideration for a number of years, and its importance to the states and cities through which it will pass has been well understood, but harmony of action has not heretofore been obtained. Hon. W. D. Washburn, one of the Minneapolis members of the board of directors, says that this route will place the latter city in connection with a railway system that is the natural competitor of the Chicago and Lake Michigan lines, and will be a large saving in distance. This line will bring Portland, via the Sound and Ogdensburg, 331 miles, Boston 201 miles, and New York 102 miles nearer to Minneapolis than the Chicago route. As low or even lower rates will be obtainable than can be given from Duluth even in the summer, while the disadvantages of the haul will be with the latter. Mr. Washburn said that \$1,000,000 of the stock were already pledged, and two corps of engineers would be placed at once in the field with the expectation of completing the surveys, etc., by spring, and enable them to commence the construction. A corporation will be organized to construct the portion from Minneapolis to the St. Croix River, which will be entirely a new road, crossing the river between Stillwater and the St. Croix Falls.

Mr. Morris Marcus, Secretary of the San Francisco Chamber of Commerce, has written the following letter to the Bureau of Statistics regarding the question of shipping wheat via New Orleans, as compared with the all-sail route: "In considering the relative merits of the two routes, a brief statement of the prominent features of the sailing route may not be out of place. A vessel being chartered for a wheat cargo to Cork, the shipper has the choice of five loading ports adjacent to the Bay of San Francisco. The loading completed, bills of lading signed and vessel cleared, her cargo can be placed on the Liverpool market for sale at once or can be held until the most favorable moment for disposing of it. A cargo can be sold or re-sold a dozen times before the vessel reaches the port of call, and then the last purchaser has his choice of all ports in the United Kingdom; or, if charterer has continental option, then of any port on the continent between Havre and Antwerp, to any one of which he can order the vessel to proceed. The length of the voyage around the Horn is not regarded as a drawback, but rather as a benefit to dealers, and the facility with which cargoes are made to change hands under this system make it highly regarded and generally preferred

by grain dealers, millers and speculators. The average freight by sea being lower than via New Orleans, and the conditions of shipment being more favorable for speculation, it is the opinion of dealers in this city that wheat shipped via Cape Horn can generally be dealt in more advantageously in Liverpool than could be expected by the New Orleans route. There may be certain times when speed would be a great consideration, in order that advantage might be taken of a temporary scarcity of wheat in foreign markets. In such emergencies it is probable that the Southern Pacific Railroad Company will convey a portion of our crops to Europe. At the present time, however, cargoes nearly due off the coast of the United Kingdom do not command so good a price as those just shipped, and not due for four or five months to come."

The evidence is increasing that the Chicago, Rock Island & Pacific Railroad are about to make an extension in the Red River country beyond Minneapolis. A recent visit of R. R. Cable, President of the road, and Hugh Riddle, chairman of the executive committee, is widely reported in that quarter to have been for negotiating the purchasing of the Minneapolis & St. Louis Road that was bought a year ago by persons identified in interests with the Rock Island Road. The Chicago view is that this, for various reasons, would be premature, but that the object of the visit of these gentlemen was to project a new line northward from Minneapolis, lapping both the Northern Pacific and the St. P. M. & M. roads. A line of survey, it is said, will be made soon, and actual work be commenced in the fall. The value of this project to the Rock Island Road is evident, and their inauguration of their Albert Lea connection a year ago, points to this object.

## Items from Abroad.

The wheat crop of Roumania is even worse than was reported. Only a quarter of last year's yield will be realized, and the quality is poorer than it has been for ten years.

The amount of wheat available for export in Austria is estimated at 5,500,000 meter centals, and the amount of barley at 3,000,000 meter centals. It is expected that no rye or oats will be available for export.

The wheat harvest in Hungary is now ended, and the yield is estimated at 20 per cent. lower than last year, which was an extraordinarily large one, the surplus for exportation being worth £20,000,000. The falling off in this year's yield is attributed to the terrible heat which prevailed in Hungary during the month of July. The reduction in quantity will be made up, to some extent, by the quality of the grain.

A destructive fire occurred Aug. 23 at Manchester, England. An extensive block of warehouses, six stories high, the property of the Manchester, Sheffield & Lincolnshire Railway Company, was burned. A portion of the warehouse was saved. A large quantity of Indian corn, oats, beans, straw and hay was destroyed. The part of the buildings where the fire started was used for the storage of horse provender, and this portion was consumed. The damage amounted to £10,000, covered by insurance.

The *Mark Lane Express* in its review of the British grain trade during the past week, says: The harvest progressed slowly. Trade in foreign wheat off stands slow, though there is no quotable decline in prices. Barley, maize, and linseed are cheaper. Trade in cargoes off coast neglected. There were 9 arrivals, 2 sales, 2 withdrawn, and 8 remain on sale. Sale of English wheat the past week, 54,188 qrs. at 41s 8d. against 42,243 qrs., at 45s 9d, the corresponding week last year.

The net imports of wheat and wheat flour into France for the twelve months ended July 31, 1883, were equal to 41,216,640 bushels of wheat, against 44,480,000 bushels in 1881-82 and 58,154,700 bushels in 1880-81 at the corresponding period. The net imports of wheat and flour over exports of the German empire for the seven months ended July 31, 1883, were 8,513,475 bushels, against 7,562,227 bushels for the corresponding seven months in 1882. Belgium, during the seven months ended July 31, 1883, imported 14,400,000 bushels of wheat, against 13,700,000 bushels the corresponding time in 1882.

Mr. H. Kains Jackson, of England, who is generally regarded as good authority on agricultural matters, states that both in England and France there is some reason for hoping that the crops will prove of superior quality to last year, and that this will go in some way to mitigate the deficiency in actual bulk of wheat. The German harvest has not yet formed the subject of statistical estimate, but is generally regarded as under the average both for wheat and rye, but above an average for oats and potatoes. In Russia, wheat and rye are both good crops this year, or advices usually the most trustworthy are for once in error. The Danube has been less fortunate, especially the Roumanian provinces, where heavy local rains have fallen at very inopportune seasons.

The Stock Company's elevator at Manning, Iowa, is approaching completion. It is thought that when this is completed, with the elevators of Bell & Winter, and U. L. Patton on the Northwestern, together with the grain house on the C. M. & St. P. Railroad, all the grain can be handled that may come to that point, and obtain all it is worth.

sumer, were, as in most corners, those who buy from farmers at the country stations and make up car-loads to ship to the city. These men had bought large quantities of wheat, which they had sold for "future" delivery at prices that would have paid them only a fair profit. The collapse of the corner inflicted upon them a loss of thirty and forty cents a bushel, and swept away in a moment from hundreds of them the accumulations of years of patient trading, during which many of them had never made a speculative deal, though they were often "future" sellers. The commercial reports of the Chicago papers show that, during the corner of 1881, shipments were stopped, elevators gorged, the lake marine paralyzed, sailors and laborers thrown out of work, and a blockade of the entire grain business threatened. Receivers of grain were ruined, and so lured into speculation. "Some of the houses which have bought and sold most heavily for speculative customers," said a Chicago journal at the beginning of 1882, "have been those who, previous to last midsummer, had done very little except in buying and selling for actual exchange between the producer and the consumer."

The commercial editor of one of the leading New York dailies, who had been on the Produce Exchange for eleven years, says: "Since these corners began, there is a large proportion of merchants who had a good receiving business who are now simply brokers in options, and get all their business from the cliques. At the time I went on the Exchange, there was not a broker in the grain trade, except those who bought and sold actual stuff for export. Now there are a few of these, and, I should judge, over one-half or three-fourths of the members engaged in the grain trade are men who were once engaged in legitimate business out of which they have been driven by corner operations." If there was any advantage to the farmer from such operations it would not be a natural advantage, but there is no advantage. These corners put prices down when the farmers want to sell, and put them up when the miller needs to buy. They exaggerate gambling by intensifying the fluctuations of price, and they cripple legitimate business. They derange the rail, lake, and ocean transport of the farmers' crops to market. They drive away the foreign buyers to patronize the Hindoo ryot, who is happy, our Consul at Calcutta says, if he can earn ten cents a day. They convert the exporters and legitimate dealers on the Board into brokers and claquers for the syndicates. They will surely, if unchecked, destroy the Board, which, with all its faults, is the finest piece of mechanism commerce has yet invented, and without which the American farmer could not retain his command of almost antipodal markets. The farmer who thinks corners are a benefit should consider well the fate of the oil producer at the hands of the oil corner, which has become one of the established institutions of the country. The cornerer is a middle-man who leaves nothing for the end-men.

[TO BE CONCLUDED.]

## The Trade.

The Barnard & Leas Mfg. Co. of Moline, Ill., have been making some important improvements in their corn cleaner.

The Jennings Dryer, advertised in this issue by Messrs. J. C. Bates & Co. of Boston, has been applied successfully to fish, fish-scrap, wool, glue, phosphate, acids, cotton goods, etc.

The Lechner Mfg. Co. of Columbus, Ohio, have been enjoying a good trade in their Detachable Chain Belting, having supplied many mills, elevators, etc., with it for various purposes.

Chisholm Bros. & Gunn, mill and elevator builders of this city and Minneapolis, made an assignment for the benefit of their creditors on Sept. 3. On Wednesday last a proposition of settlement on the basis of twenty-five cents cash on the dollar was made and accepted by most of the creditors.

Thornburgh & Glessner of this city have been filling a large number of important contracts, recently, a number of which are given elsewhere. Among them is one for all of the elevator buckets to be used in the new malt house of Geo. M. Weiss & Co., which is going up in this city, and which is now about ready for operation.

The Link-Belt Machinery Company are now building a double-strand grain-elevator for Funck & Co., Galva, Kan. This company is also building one single and one double strand elevator for Nicholas Schlee, Columbus, O., one endless-trough conveyor for handling roasted ores, 460 feet long, and three conveyors for the same for C. E. Coffin, Muirkirk, Md.; a cog hand rigging for the Winnepiseogee Paper Company, Franklin, N. H.; a double-strand elevator and a lot of driving gear for the Eckstein White-Lead Works, Cincinnati, O., and two single-strand elevators for A. H. King & Son, Batavia, N. Y. The works have also in course of construction a board elevator for the Cross Wood Printing Company, this city, and are building the machinery for driving the water power of Baker & Adams, Minidoka, Idaho; a grain elevator for Levi Thacker, Creston, Neb., and a grain elevator for William Beed, Hampton, Iowa. The company has also just placed in position an extensive exhibit in the Inter-State Industrial Exposition, embracing a barrel elevator, a grain elevator, and a tile elevator.

Twenty-six bushels of wheat to every man, woman, and child of the state, it is reported, will be the crop of Kansas this year.



# THE AMERICAN ELEVATOR AND GRAIN TRADE.

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## ADVERTISING.

This paper has a large circulation among the elevator men and grain dealers of the country, and is the best medium in the United States for reaching this trade. Advertising rates made known upon application.

## CORRESPONDENCE.

We solicit correspondence upon all topics of interest connected with the handling of grain or cognate subjects.

## DULUTH AND MINNEAPOLIS.

The sharp competition between Duluth and Minneapolis, as receiving and shipping points for grain and its products, is a recognized fact, rapidly increasing in its supposed importance to those interested. The press, at the latter city, fully voices this public sentiment, but at the same time denies any real or permanent danger to the pre-eminence of Minneapolis. The evident, and great progress of Duluth as a shipping point for grain is not underestimated or decried. Her growth and rapid development are hailed as an evidence of the same progress in these regions that naturally seek a more northern outlet for their products, and such a condition produces no competition endangering the interests of the former city. The main objective attraction, however, is the same for each, to obtain as much as possible of the valuable hard wheats peculiar to the Northwest; but at Minneapolis, this is for the purposes of milling, and shipping abroad the manufactured product, while at Duluth it is to supply, by grain shipments, the demand of the mills of the East and Great Britain, that are increasing their facilities for using these wheats. The question then, is one of transportation, as to whether these New York and British mills can obtain this wheat, via Duluth, at such freight rates as to be able to compete in their own market with the flour manufactured at Minneapolis. To a considerable extent this seems to be a competition between the water transportation by the former point, and the rail carriage, via Chicago. As recent estimates, though varying, place the total charges on grain, including all expenses, from Duluth to Buffalo at 7½ cents, there are advantages here sufficient to secure a large amount of grain, favorably located for this shipment, and assure this lake port a high position as an independent grain market.

But, on the other hand, the Minneapolis Millers' Association control elevators throughout the Northwest with an aggregate capacity of 20,000,000 bushels, enabling the millers to buy at the most advantageous season and hold their wheat for use. The capital thus interested is immense and not easily driven from the field. The point is claimed by Duluth that both by the lakes and the railroads to the interior, the large capacity for the bringing in of general merchandise can be offered to East bound grain at low rates rather than to return empty. But this is equally effective, it is claimed, on the routes to Minneapolis and St. Paul, with a vastly larger field of operation.

In the comparative history of water and rail traffic, while the former mode regulates freight rates, the latter is far in excess in the actual amount carried, due to speed and safety. Last year, over four-fifths of the actual receipts of grain at Atlantic ports were by rail, and thus less than

one-fifth by lakes, canal, and the Hudson River. In the same ratio as the rail traffic between Chicago and New York exceeds that by the lakes and canal, will be the excess of the all rail freights from Minneapolis and St. Paul over that, via Duluth and the lakes; and the cars bringing millions of tons of merchandise to the Northwest by the former route, will not, any more than by the other, return empty. In this competition the grain and flour rates by rail are not fixed and must decline. These views, from the Minneapolis standpoint, are strengthened by a reference to the projected new route by rail to the various seaboard ports of the East and Canada, via the Sault Ste Marie, elsewhere described in this issue. This enterprise is under the auspices of capital and experience that assures its success in the near future, and will add another competing line with many important connections, independent of the present railway control of rings and pools, to sustain and augment the grain and flour traffic of this great milling center of the Northwest.

## CORN AND THE FROST.

With the mass of conflicting statements respecting the damage done to the corn crop by the late frosts, it is difficult to arrive at the truth. But this much is evident; that the damage was widely overestimated. It is true that in some localities in the northern tier of states, corn on low ground was badly hurt; but the aggregate damage was not so large as interested parties have attempted to make out. The yield of corn expected was so very large that 200,000,000 bushels can be spared and yet a larger crop be gathered than the country ever knew before. There is little doubt that even if the worst reports are true we will nevertheless have a crop of over 1,800,000,000 bushels, with a good prospect of a still larger yield. It is to be noted that at least half the crop was out of danger when the frost occurred. Some localities suffered largely; but the corn crop of the country at large will be the greatest we have ever known.

## ELEVATOR CAPACITY TRIBUTARY TO MINNEAPOLIS.

The larger proportion of the elevators along the St. Paul, Minneapolis & Manitoba, and the Northern Pacific Railroads are owned and controlled by the millers of Minneapolis, Minn. The following are the names of the elevator companies, and the aggregate capacity of their elevators, from which mainly that city obtains its supplies of wheat, as stated by the *Pioneer Press*: The Geo. W. Van Deusen Co. have 70 elevators with an aggregate capacity of 1,750,000 bushels. The largest at Minneapolis has a capacity of 300,000; the next in size is at Winona with 200,000, and the third at Rochester with a capacity of 100,000 bushels. All are in Minnesota except two which are in Dakota. The Northwestern Elevator Co. has 18 elevators with a total capacity of 1,450,000 bushels. Hodges & Hyde have 38 elevators, aggregating a capacity of 575,000 bushels. The Pillsbury & Hulbert Elevator Co. have 62 elevators with an aggregate capacity of 3,064,000 bushels. The two largest are at Fargo and Three Points on Moorhead Northern, with a capacity of 120,000 bushels each. W. W. Cargill & Bros. have 36 elevators with a total capacity of 610,000 bushels. The Minnesota & Dakota Elevator Co. have 23 houses, located on the St. P., M. & M. Railroad with an aggregate capacity of 1,035,000 bushels. The Northern Pacific Elevator Co. has 45 elevators with a total capacity of 2,009,000 bushels. The two largest are at Fargo, and Mapleton, Dak., with a capacity respectively of 150,000 and 100,000 bushels. Kellogg, Lange & Miller have 24 elevators with a total capacity of 921,000 bushels. The two largest are at Sioux River Valley and Elevator "C," at Minneapolis, with capacity of 150,000 bushels each. F. H. Peavey & Co. have over 50 elevators, and seven new houses going up in Dakota, with an aggregate capacity of 911,000 bushels. Meader & Co. have 10 elevators, on the Pacific division of M. & St. L. Road, owned and operated by several parties, aggregating a capacity of 310,-

000 bushels. The Minnetonka Mill Co. have 6 elevators with a total capacity of 97,500 bushels. The St. Paul elevators are "A" and "B" with a capacity respectively of 500,000 and 1,000,000 bushels. The Milwaukee elevator is not in use. The Minneapolis elevators, not included in the above, are "A," "B," Pillsbury, Lowry, and the Mills, with an aggregate capacity of 3,095,000 bushels. The largest, elevator "B," has a capacity of 900,000 and the next in size, elevator "A," of 750,000 bushels. Under the head of Sundry Firms, and all other elevators, is aggregated a capacity of 3,740,000 bushels. The grand total elevator capacity is 20,394,500 bushels.

## A COMMON FRAUD.

N. K. Fairbank & Co. of this city are reported to have lost recently in the neighborhood of \$4,000 from the speculative dealings of a confidential clerk, who has represented the firm on 'Change for several years. A position of this kind gives the clerk a knowledge of intended purchases or sales sufficiently large often to influence the market prices. With this knowledge, by the use of another set of books and bank accounts, with the name of a dealer on the board as "dummy," the clerk, or broker possessing it, may forestall the purchase or sale of his employer by his own deal, and sometimes, in the rapid market changes, to their loss in the delay of their orders. Brokers have been charged with being engaged in such transactions, while it is said that there are several men on the Board who trade entirely upon the points obtained from the offices of prominent commission dealers through their confidential clerks and those brokers with whom they are associated in this underhand business. As the market is always liable to be affected by heavy deals and is at times especially sensitive, it is easy to understand how this knowledge is of great value to the outside dealer. That these methods of business, associated with the immense transactions of the various boards in simple margins, supply educational influences to the ambitious clerk which lead directly to gambling and embezzlement, is perfectly clear on its face, and possibly is the most terrible in its destruction of the character of our young rising business men, of any of the evils of this mania for speculation, including those of "corner" manipulation in bread-stuffs.

## DECLINE OF CHICAGO'S GRAIN HANDLING.

The total elevator capacity of Chicago was recently placed at 24,625,000 bushels, making an average of nearly a million bushels for the twenty-five elevators. Mr. Wheeler, who is interested in eight of these great grain store-houses is reported to have said recently that there had been no increase in the elevator capacity of this city during the past two years. It was not needed, as two of his houses did not contain a bushel of grain. The reasons assigned were; that low grades do not now go into elevator bins, but are sold by samples on track. A few years ago all the grain came from this side the Mississippi, now it all comes from the other side. Shippers are becoming more careful as to methods, and more economical. But among the causes an important one is the increasing shipments of flour in place of wheat. "The receipts of flour at this market is increasing enormously." The Treasury Department reports show that there is a large and steady relative increase in our flour exports as compared with those of wheat. This is a rather gloomy view of the situation.

The grain men of Chicago had a meeting recently to see what could be done to prevent the "plugging" of cars of grain by dishonest country dealers. The fraud practiced is the filling of quite a space in the bottom of the car of grain with chaff, or bran, or inferior grain, and the grain being sold by grade, the shipper has to stand the loss. This kind of doctoring is done so skillfully that it largely escapes detection by the inspector.



## Editorial Mention.

A WHEAT FAIR was held at Winston, N. C., the past month.

THE crops will not be so bad after all the talk to the contrary.

IN the language of our rural contemporaries, "Now is the time to subscribe."

APPROPRIATELY enough the first through freight on the Northern Pacific R. R. was a train of thirty cars of wheat from Walla Walla.

THE commissioners appointed by the Governor of Dakota to decide on a standard of grain inspection have adopted the Duluth Standard.

THE WESTERN GRAIN DUMP Co. of Lincoln, Ill., make an exceedingly liberal offer in their card in this issue, to which the attention of elevator men is directed.

It is stated that some of the Minneapolis millers have requested the Chamber of Commerce to make two new grades of wheat to be known as No. 1 soft and No. 2 soft.

AMONG the new cards appearing in this issue is that of French Brothers, grain dealers and commission merchants of Kansas City, Mo., and N. A. Sanborn of Portland, Me.

MR. HENRY H. TABER, 5 Barclay St. New York City, manufacturer of the Norris Patent Pulley Cover, writes: "I have had value received for my advertisement in your paper."

P. EMMERT of Osco, Ill., writes: "Inclosed please find one dollar for the AMERICAN ELEVATOR AND GRAIN TRADE; a paper I cannot and would not do without."—A model letter.

MR. A. W. RIGGS of New York City writes us, in the course of a business letter: "Your publication is an exceedingly interesting one in my judgment; full of facts, and very suggestive."

A BLUNDER last month made a part of the advertisement of the Cambridge Roofing Co., of Cambridge, O., read "calcimine iron ceiling," instead of "calamined iron ceiling."

ANOTHER new drier is in the field, and is advertised this month by the patentee, Mr. Joel C. Slaughter, of Chestertown, Md. A patent was granted on it July 24, covering a number of important features.

LAST MONTH we made some mention of the Grain Drier patented by W. H. Applegate, of Atlantic, Iowa. An advertisement of this drier in this issue gives some further particulars respecting it, which interested parties will note.

EDWARD P. ALLIS & Co. of Milwaukee, have placed us under obligations for a copy of a neat, new catalogue of a hundred pages, describing the Reynolds-Corliss Engine. This engine has made a record that the makers may well be proud of.

ARMOUR & DOLE's elevators "A" and "B," at Chicago, Ill., shipped 1,121,230 bushels of grain from Aug. 27 to Sept. 2, at noon. During this time the propeller, James Davidson, was loaded with 72,000 bushels at one of the elevators in four hours.

TROW & Co. of Madison, Ind., lost their elevator by fire on Aug. 24. This is how the item read by the time it reached the Pacific Coast: "MADISON, Wis., Aug. 24.—The immense elevator of Feror & Co., containing 100,000 bushels of wheat, was burned early this morning. Loss, \$125,000; insurance, \$60,000."

A. B. TAYLOR, grain commission merchant of Minneapolis, Minn., whose card has become familiar to our readers, has admitted D. C. Moak to an interest in the business, and the firm will hereafter be known as A. B. Taylor & Co. The specialty of the firm is choice milling wheat.

THE LAMINA WOOD Co., of Boston, has been changed to the Laminate Wood Co. of Boston and Chicago, the Chicago office being located at 46 S. Canal street. We have been shown specimens of the work which this company is turning out, elevator buckets and the like, and predict a future for these wooden articles.

J. L. DRAKE, with Maguire & Co., Advance Elevator, Cincinnati, writes us that after a trip through the Northwest he has come to the conclusion that there is no need of any one starving this year, if we are short in winter wheat, as the yield of oats, potatoes and spring wheat is unprecedentedly large, and the corn crop will be enormous where the early frosts have not injured it.

THE Kansas railroad commissioners have decided adversely a question asked by the Union Pacific—namely, whether, where sufficient capacity exists to handle all grain through elevator, the company might prohibit track loading from wagons or other means than elevator. The board held that when in a busy season cars are delayed an unreasonable time, demurrage might be collected from shippers.

AUGUST CHRISTIANI, Manvel, Dak., has sued the Manitoba Railroad for \$25,000 damages for refusing to furnish cars for grain carriage to his elevator. He had obtained permission of the company to erect an elevator at Manvel, and had purchased all the wheat there was in town, although Pillsbury & Hulbert had an elevator in the same place. He was notified by the company that he must enlarge his elevator to the extent of 30,000 bushels or remove it, and they refused cars to transport his wheat. With their permit, as common carriers, he contends the company has no right to refuse transportation.

MEMBERS of the Baltimore Corn and Flour Exchange, it appears, have expressed their belief that the Erie Canal was having an unfavorable influence on their trade. The *Journal of Commerce* of that city replies with the statement, that the grain receipts at that port are proportionately larger than for some years, if not greater than ever before, and that recently they have been receiving from two to three times as much wheat as New York. The New York receipts, in the corresponding periods of 1882 and 1883 since January 1, were in the former year, about 19,500,000 against only 12,500,000 bushels this year, or a decline of 7,000,000 bushels; while at Baltimore the receipts increased during the same period of this year from 7,600,000 bushels to over 9,800,000, or a gain of over 2,000,000 bushels. The gain in corn receipts, the writer states, has been four or five times as great in its percentage as that of New York.

THERE has been as yet no avowed settlement of the conflict between the Eastern Railroads and the Chicago Board of Trade, yet virtually the former have given up the contest. The representatives of all the roads, it is said, are on the floor under the thin pretense that they are simply agents for some steamboat company working in connection with the roads, and are only soliciting export business. But it is stated, that all these agents actually make contracts on the Board for all kinds of consignments. The first one who returned to the floor of the Board was Mr. Jas. Sharpe, agent of the Great Western Dispatch, representing the Chicago & Atlantic, New York, Pennsylvania & Ohio and Erie Roads, and the Union Steamboat Co. The Chicago Committee of the East-bound freight made strenuous efforts some weeks since to obtain the withdrawal of these agents, which all the railroads agreed to do, provided Mr. Sharpe was withdrawn. An appeal to the General Freight Agent, MacKay, and

through him to H. J. Jewett, President of the Chicago & Alton and Erie Roads, resulted in a refusal to withdraw Mr. Sharpe. This state of things cannot continue, as some of the roads, *e. g.* the Baltimore & Ohio, have no steamboat connection, and it is simply a question of time when the agents of all the roads will be again on the floor of the Exchange.

THE Chicago Open Board deny the statement that they are responsible for any decline of trade on the Board of Trade, and claim that they are a benefit to the latter by preventing over trading, and lessening failures. The Open Board had intended to increase their charges from one-eighth to one-quarter of a cent, but the competition of the bucket shops will not permit it. "Gambler's alley," it is said, is a small affair compared with a concern on La Salle street near Madison, employing 125 clerks, and doing almost as much business as the Open and old Boards combined. This shop has drummers all over the West, employed on an eighth or a quarter commission, who probably impress upon their customers the idea that they are dealing with a legitimate house. As these bucket shop margins are small it is easy for them to end a deal when they have a large lot on the long or short side by employing a regular commission man to work the matter up on the Board, and when the quotation comes the country financial venture passes over to the bank account of the shop. In this way the country is being "squeezed or frozen out in Chicago."

## ELEVATOR CHARGES AT NEW YORK.

The New York Railroad Commission have advised the railroad companies having grain elevators in New York harbors to give up their charge of one cent per bushel for loading grain at their wharves. Until two years ago all the grain coming to New York was lightered to vessels, for which service the roads paid one cent per bushel, and the grain owners one cent for loading. The interests of vessels and railroads were at length subverted by the creation of elevator facilities for loading directly into vessels, and thus avoiding both charges, as this work was done by the immense elevators of the Erie and N. Y. Central roads free of charge. Philadelphia and Baltimore, whose water privileges had always made it necessary to load their grain vessels from elevators, for which they had charged one cent per bushel, finding this deduction of cost at New York an injury to their business, also abandoned the charge. As the larger portion of the grain shipped at New York had still to be lightered to vessels, in spite of the two cents charge, this freedom of cost at the other competing ports injuriously affected its transportation business. A conference was called by the New York roads, of those interested in the railroads at each of these ports, which resulted in the restoring at all of them, in July, 1882, the one cent per bushel charge. This action has led to complaints to the Commission against the New York roads, from the grain merchants, relative to this resumption of charge. The answer of the roads is, as this would lead the other competing ports to make elevating free, the interests of the New York roads would be in consequence injured. The Commission, however, believe that the removal of this toll all around would take off a needless tax on grain of many hundred thousand dollars per annum, and that in view of this public good New York ought to yield, in spite of the possible injury to her grain carrying industry, and give the thing a fair trial, and not take steps backward. The *New York Mercantile Journal* warmly sustains the Commission against the roads, "whose arguments," it says, "sound like those urged a few years ago against labor-saving machines, which have been sufficiently answered by the issue of events." Our contemporary thinks that, although distasteful to the Vanderbilts, the Commission have served the public well, and suggests that their decisions should be clothed with more dignity than that of merely "recommendations."



## THE PRICES OF WHEAT AND CORN.

There is notably a general decline of prices, at present, of the staple articles, in all lines of business. This has not occurred abruptly, but by gradual steps, and has slowly at length, in its influence upon the values of the leading cereals, wheat and corn, attracted serious attention, and a careful consideration of the causes and tendency. The *Indiana Farmer* deals with this subject in the light of a review of the ruling prices of food staples during the past fifty years. During the half century preceding 1876, the export price of wheat at New York averaged \$1.83 per bushel, and there were, during these years, three periods of depression and three of more or less marked inflation of prices. In the years 1825-30 the average price of wheat was only 89 cents per bushel. During the next five years the average price was \$1.20. A decline followed, and the next ten years' average was about 98 cents. The following five years the price of wheat rose to \$1.25, and for the succeeding five, to \$1.39 per bushel. The period of the civil war depressed the price to \$1.29; but this was followed by a period of inflation and a sudden rise of prices, that of wheat averaging for the five years ending 1870, \$1.44 per bushel. The next five years gave an average price of \$1.32, about equal to that of the entire period considered. At the present time export wheat is worth only \$1.17, which is not only below the average of the past ten years, but also below that of last year, when the enormous crop naturally reduced prices. A careful study of these facts and the attending conditions shows that a period of depressed prices is one of liquidation. This is sustained by the history of the prices of flour during this period. For the fifty years ending 1875, the average price per barrel was \$6.41. The highest average for any five years of that period was, immediately following the war, \$8.03 per barrel. In the succeeding five years it fell to \$6.47. In 1880, flour was worth \$5.87, while its present export price is only \$4.10 per barrel. In this matter of flour there is a complication, adding to its price depression, viz., That various causes such as the success of the new processes, etc., have led to immense investments in milling facilities, and our capacity now far exceeds the largest possible supply of grain and endangers stagnation. Our entire supply of grain, it is said, would be exhausted in three months by our mills, if all were running at full capacity.

The average price of export corn, during the fifty years considered, was 74 cents per bushel, or 11 cents higher than at present. During the period of 1875-81 corn averaged 56.4 cents per bushel, being lower than at present, while the average price of wheat was higher than it is now. The present estimate of the corn crop by the Department of Agriculture is 1,700,000,000 bushels; but there are to be considered the unfavorable conditions under which it was planted, and those which have since retarded its growth, that may effect large losses from frosts, etc., especially in its quality. The fluctuations in the prices of corn meal have followed closely those of flour. The average for the fifty years was \$3.57 per barrel. Its highest point was in 1870, \$5.42, from which it fell in 1877 to \$2.79 per barrel, and at the close of July last to \$2.75. The present prices of the above articles, compared with the average prices of the fifty years considered, are lower in percentage as follows: Wheat is 12, corn 15, flour 36, and corn meal 23 per cent. lower.

These facts explain largely the causes of the present price depression. From 1880 to 1882 was a period of inflation, and led to overproduction and intense speculation. We are now in a period of adjustment while the market demand does not equal the supply, and the means for settlement are thereby greatly diminished. The production of wheat has been especially large during the past five years, and has added to price-depressing influences. Manufacturers and producers have overstocked the markets, while the bulls on 'Change have added to these evils the artificial increase of prices from which the fall is all the greater.

The country must patiently wait for a recovery from this unhealthy condition of speculation and

over-production, until these adjustments have been completed in the world's clearing house of traffic, learning by compulsion, economy, and perhaps some practical wisdom for future application.

## OUR RAILWAYS.

Poor's Manual of the Railroads of the United States for 1883, issued in August, is unusually full of valuable statistics and information. Our railroad system, commencing in 1830 with 23 miles of road, had, at the close of the fiscal year of 1882, 112,412, and at the opening of the present year 113,329 miles of railways, of which were built about 12,000 miles during the past year, 47,000 miles during the last decade and 34,000 miles during the preceding ten years. The distribution of these roads in 1882, in round numbers, was 65,000 miles, in the Western states; in the New England states a little over 6,000 and in the Pacific states nearly 7,000 miles; in the Middle states there were about 17,000, and in the Southern nearly 17,500 miles of railroad.

The total railway tonnage of the country during the past year was 360,490,375 or a little over 7 tons per capita of population. Of this the New England states transported 28,605,416 tons, being 7 tons per capita of its population; the Middle group 166,372,589, or 13.6 tons per capita—the roads of Pennsylvania moved 23.4 per capita. The tonnage of the Southern states was 19,199,096, being 1.56 per capita; of the Western group it was 140,791,848, or 7 tons per head, and of the Pacific slope it was 5,526,426, being 2 tons per head of population.

The charges on railroad freight were, in the New England states 1.7 cents per ton per mile; in the Middle states 1 cent; in the Southern group 1.8 cents; in the Western states 1.2 cents, and on the Pacific slope 3.1 cents per ton per mile. The total railway tonnage of the United States in 1882 equaled 39,302,209,249, moved one mile at an average charge of 1.2 cents per ton. The value of this tonnage presents a complex problem with varying elements. The New York freight rates are classified by the canal schedules, and the value of the tonnage of the New York Central last year was estimated at \$725,000,000 an average of \$60 per ton. On this basis, with deductions for duplicate reports the net aggregate railway tonnage of this country last year is estimated at \$15,000,000,000, or or \$300 per capita. While railroad extension in this country has had its periods of excitement and depression, it is based on the demands of a vast territory, with almost every variety of soil, climate and production steadily and rapidly increasing its area of cultivation and capacity of manufacture. The future continued growth and improvement is therefore assured, and can be calculated upon with equal certainty as the seasons.

## FREE CANALS.

Previous to the action of the State of New York upon the freedom of the canal tolls, various objections were made as representing the views and interests of the people. Among these were, that the additional tax would fall largely upon localities too far from the canal to be benefited, that the profits of a few thousand boatmen would be increased, at the expense of the taxpayers generally. The railroads unanimously asserted, that the canal was doing all the business it could already, and that this act would increase boats immensely, and create wild competition. But the amendment was adopted, and its real effects are now becoming apparent. The *New York Herald* says, that while no unusual eastward movement of grain has since occurred, there has been an increase of about 200,000 tons of grain shipments through the state over the corresponding months of last year, or a little more than ten per cent. The Albany political manipulations of toll rates are ended. The threatened competition with Baltimore, and the more dangerous one via the Mississippi River, have been successfully met, while grain shipments are no longer dependent on the will of railway magnates and their control

of legislative action. "With a free canal all the grain growing country near the great lakes will continue to find its natural outlet at New York." The importance of grain to the commercial prosperity of New York, the *Herald* says, cannot be too carefully kept before the public. Grain is, in the main, that which keeps the great fleets of ocean steamers constantly moving to Europe, whither they carry annually over 70,000,000 bushels from this port, and whatever affects the commerce of the city, either favorably or otherwise, affects the interests of the whole state.

## OUR INLAND WATERWAYS.

Capt. Stackpole, of Fairbury, Ill., presents vigorously in the columns of the *Ottawa Free Trader* the claims of the waterways from the great Lakes to the Gulf, and urges the necessity of immediate action in their behalf. The failure to recognize their importance, or "neglect, treachery or incapacity among leading and wealthy men, are, according to this writer, allowing interests of the Great Valley to perish, many times more valuable than those upon which these men are bestowing their zeal and money. The fact is pointed out, that eight months have passed since the provisional cession of the canal by the State of Illinois to the General Government, during which there has been no movement to urge the attention of the Government to it and its action, without which this legislation will be fruitless." The terrible losses sustained by the residents of the regions of the recent overflow of the Mississippi, it is said, are due to the neglect of those in power to deepen river channels, and make proper improvements. In Madison county alone besides the destruction of crops, 6,000 head of cattle were drowned. The terrible destruction of property in the American bottoms of which this is simply an index, might, with its sad consequences to life and health, as well as property, have been mostly saved, "had the channel of the river been properly cleared \* \* \* even two feet [of flood level] would have turned the scale, and the homes and property behind these levees would have been saved." The writer enlarges upon the value of commerce in the future of these waterways to the Gulf, connecting as they do the lake ports and the whole line of the intermediate rivers direct with the ports and traffic of South America, as well as on the prospective growth of the latter, with its productive soil, its immense rivers through which the mountains of the West, and the rich plains of the center and South can all be reached, and their products obtained.

A sanguine view is also taken of the prospects of the Darien Canal under its present auspices, and its successful opening of the wealth of the Pacific coasts to the commerce of the world, and especially by its nearness to that of the Mississippi and its tributaries. While there seems to us in this letter an unjust severity of denunciation as to neglect of action, and suspicion as to motives, the subject in all its bearings is worthy of full and careful consideration, and most energetic action, when what that action should be is fairly decided. There is no listlessness, we think, on the part of those interested, especially at our great commercial centers. But the problem of the Mississippi and its floods, have so far baffled the wisdom of the greatest and most conscientious engineers of our country who are still not in accord, while the plans proposed involve the expenditure of uncounted millions. We look forward to the convention called to meet at Washington in February next, representing the practical wisdom and experience of all those intimately associated for years in the traffic and improvement of the great river, with large hope, and we can hardly doubt that its results will be such as will prompt to the most efficient action.

The course of the General Government is proverbially slow in assuming new responsibilities and expenditures, and all the pressure that can be brought to bear in representing the importance to the country at large of any particular course in this regard, can do little to hasten its action. We must patiently and hopefully wait, and coolly and wisely act, even when the interests involved are as great as those under consideration.



## GRAIN TRANSPORTATION.

In the competition of the various points of grain production the time and cost of transportation is one of the most important factors. The August preliminary report of the Bureau of Statistics presenting the comparative expense of transporting grain during the past fifteen years, shows that owing to the increased facilities for handling and carrying cereals, and the large amount now seeking transportation, as well as the increased competition of the railroads with waterways, the cost has greatly decreased. Previous to 1868 it was not anticipated that the roads could compete successfully with the latter in the carrying of grain; but this is now shown to be an error, as the Atlantic ports last year received over four-fifths of the total grain shipped them by the all-rail routes. The waterways are mainly, in the grain traffic, a regulator of prices, rendered still more effective by the vast storage facilities for holding the grain against any excessive freight charges during the winter season, so that the average rate was only 14.6 cents per bushel from Chicago to New York, last year. The all-rail shipments from Chicago for the past five years were about 35 per cent. of all the wheat and over 30 per cent. of the total corn shipped thence to the seaboard. In 1868 the average rates per bushel were, by lake and canal 25.3 cents; by lake and rail, 29 cents; and by all-rail, 42.6 cents; while in 1882 these rates were respectively 8.7, 10.9, and 14.6 cents per bushel. The average all-rail freight rates on grain this year have been 16.5 cents per bushel. During these fifteen years the total receipts of grain by rail at New York increased from 24,000,000 to 80,000,000 bushels. The total all-rail receipts at Boston of corn and oats in 1868 were about 1,900,000 bushels, and in 1882 they were about 13,000,000 bushels. Wheat was not reported until 1874, when it was about 1,300,000 bushels, and in 1881 was about 4,240,000, declining in 1882 to 2,871,000 bushels. The Baltimore receipts of grain, mostly by rail, were, in 1868, about 7,750,000 bushels, and in 1881 reached a total of 38,000,000 bushels, declining to less than 23,000,000 in 1882, due to shortness of crop. The total receipts of grain at the five great Atlantic shipping ports in 1880 were, by all-rail, about 246,000,000 bushels, and by lake and canal, about 69,500,000 bushels, and the total receipts at New Orleans by the Mississippi River were about 23,000,000. There was a considerable decline in the two following years due to the state of the crops.

The cost of transportation of wheat from New York to Liverpool was, during the past fifteen years, highest in 1873, viz: 21.12 cents by steamer, and 19.82 cents by sail rates; in 1882 they were 9.08 by steamer, sailing rates having mostly disappeared, as also at the other ports. The rates from Boston, Philadelphia and Baltimore have ruled on an average from 1 to 2 cents per bushel lower, and from New Orleans from 3 to 4 cents higher than from New York. The cost of transportation by the Erie Canal, from well-known causes, is greatly reduced, as also on the Mississippi River. Rates for grain freights from St. Louis to New Orleans, fell from 19.5 cents per bushel in 1868, to 12.3 cents in 1882 by steamer in sacks; and to 6½ cents in bulk and barges. The total grain receipts by river at New Orleans, which was about 6,500,000 in 1868, increased to an average during the three years ended 1881, of over 19,300,000 bushels, declining to 11,700,000 in 1882, due to shortness of crops.

The value of the total exports of wheat and wheat flour from the Pacific coast in the year ended June 30, 1883, was over \$36,000,000. The total wheat crop of California, Oregon, and Washington territory in 1882, amounted to \$44,700,000 against the total value of their gold and silver products of \$17,750,000. So far the grain of that region has had to seek transportation abroad by means of large sailing vessels over the long ocean route via Cape Horn, which usually circumnavigate the world; the average time consumed to Liverpool being 125 days. The average ocean rates from San Francisco to Liverpool, during the three years including 1882, was about 39.5 cents per bushel, while from Chicago to Liverpool by all-

rail and ocean it was 25.5 cents, and by lake, canal, etc., only 19.4 cents per bushel. At the former port the cost of bagging, insurance, etc., is 6 cents per bushel, while from New York the lake and marine insurance and transfer changes amount to 2½ cents, so that the average excess of cost to the Pacific wheat shipper is from about 20 to 25 cents per bushel greater than from New York. Notwithstanding these facts and that the farm wages are higher than in the grain-producing regions farther East, the Pacific coast has increased the value of its export breadstuffs from some \$17,000,000 in the crop year of 1878, to about \$37,000,000 in the year ended June 30, 1883. The new routes via the Northern and Southern Pacific roads are eagerly looked to as adding to their transportation facilities while the progress of the Panama Ship Canal is hopefully watched by the people of that fertile region.

THERE seems to be some discrepancy between the interests of the millers of Minneapolis and the local grain trade. The Millers' Association have a rule prohibiting the purchase of wheat on the outside, that is said to be practically a dead letter, and to be violated by the largest manufacturers and most influential members. This has led to recrimination and a careful watch on elevators and cars to detect offenders, and threatens to break up the Association. The views of the grain trade as expressed by a prominent elevator proprietor, are unfavorable to the rule. Its existence in stimulating this mean system of espionage is demoralizing, as well as is the effect of having a mutual agreement of the members of an association of high standing and influence in the shape of a rule, openly violated. Rules of this character, making a close corporation of buyers, are, and have been a serious injury to the local grain trade, and the general business of the city, so largely identified with it. Freedom of purchase would make Minneapolis a prominent grain market, instead of a simple milling way station. The competition of Duluth, which threatens to be large and is increasing, while her milling advantages are few, is an important consideration. The lake cities of the East, however, might wisely improve their facilities for grinding all hard wheats. The elevator business is not uniformly profitable; while the Northwestern and larger lines, and some of the smaller ones, have done well, the Minnesota & Dakota, and the Northern Pacific, which have been badly managed, have failed during the past year to pay. This business requires talent and executive skill for its successful conduct. It is thought that the rule referred to will be abolished as soon as the new Chamber of Commerce is completed.

## FOOD VALUE OF RICE.

The food value of rice has of late attracted a large amount of attention from scientific as well as practical men, while its consumption is greatly on the increase. Prof. Volk of Germany, has recently been making comparative experiments as to the value of different foods as shown in the proportions retained and assimilated by the human system. He announces as the results the following percentages: Meat, 96.7; rice, 96.1; eggs, 94.8; white bread, 94.4; Indian corn, 93.3; black bread, 88.5. It is seen, as thus tested, that rice falls slightly in nutritive value below meat, but is superior to eggs and white bread. Prof. Volk says that potatoes, as an exclusive diet, do not satisfactorily nourish the human frame, and make the blood watery, and the muscles weak. They are also liable as a crop to great fluctuations in value as nourishment as well as in quality. To this variation rice is not liable, while the experience of large numbers of hardy Chinese and Burmese laborers, and of many millions of the Oriental races attest its abundant food value.

WONDERFUL WHEAT FIELDS.—The Richmond (Ky.) *Herald* says that a party in Kingston were telling yarns of wheat fields. One man related: "I have seen fields so thickly grown, and with such heads, that the cradlers could throw their hats in front of them and they would lie on top of the wheat until cut up to." "Oh, that's nothing," said Uncle Jimmy Maupin. "I raised a field once that was so good and thick that a squirrel could run across without breaking through." Townsend, the Directory man, tells one that beats them all. While Mayor he went out with Governor Lowry to look at a field of wheat. They got on top of the fence to look over the field, when the Governor's hat blew off, and rolling along the top of the grain lodged about sixty feet off. Townsend ordered his dog, which was of the retriever variety, to go in and get the hat, and the animal, running on the grain, brought the hat to the Governor.

## Notes from the Exchanges.

The Cincinnati Chamber of Commerce had an election Sept. 11, which called out 1,400 votes. W. W. Peabody, General Manager of the Ohio & Mississippi Road, was chosen President, and Charles B. Murray Secretary.

The new Produce Exchange building at New Orleans will be only one story high, with a dome fifty feet high in the center. At one end will be a two-story building for office purposes and committee-rooms. At the other end will be the strangers' gallery and directors' rooms, and in the rear will be a beautiful garden.

The amendments to the rules of the Chicago Board of Trade, which among other things provided for the gathering and distributing of its own market reports, and measures for the prevention of "bucket shop" and similar trade connections, were adopted by a standing vote of 369 for and 82 against, with 192 scattering.

The New York *Commercial Bulletin* says that a Produce Exchange certificate recently sold for \$4,500, but that holders are disposed to wait, believing that the completion of the new building will raise the price of seats to \$5,000 each. The value of seats during August is proverbially lower, and the sales fewer than at any other period of the year. In July the cost of a seat was \$4,800.

There are divergent views taken of the rule of the Chicago Board of Trade, recently adopted, providing for the employment of Board reporters of market quotations, in their effect upon the bucket shops. While some believe that it will be efficacious, others think, as money can buy anything, that it will be eluded and be useless. The employment of detectives has been suggested. The only means of breaking up these nefarious operations would seem to be the publication and diffusion of the facts among the people; but their numerous victims seem to belong to that vast multitude of fools who never learn, and never believe the truth until they have been robbed and ruined.

The clearing system for futures is being discussed in New York. A meeting of members of the Produce Exchange has been held to discuss what is termed the Osterberg system. Mr. Osterberg explained his system, says the *Commercial Bulletin*, as follows: "It simplified business, and expedited the closing up of contracts; facilitated and consequently increased business; augmented the business of commission houses who clear contracts for others, while at the same time it lessened their risks; gave greater security to business and diminished the risk arising from doubtful or objectional contracts; avoided the concentration of contracts; gave more secrecy to the position of a house in its dealings than the present system; was of great value in times of money stringency or panic; served as an insurance in case of failures; presented to houses who may be compelled to default, inducements to make extra exertions to balance their contract liabilities, and would thereby relieve the Exchange from danger of sudden panics; benefited generally the money market of the country, and even failures did not delay the operation of the clearing house."

President Clayton, of the San Francisco Produce Exchange, at its recent annual meeting, presented the prominent facts in its past year's history. There had been a failure in their negotiations for the purchase of the Merchants' Exchange Building, as also in securing any other desirable location, owing to the high valuation of property. The Committee appointed on Sept. 2, to revise the by-laws, had presented a majority and minority report. The former proposed a consolidation with the Call Board; the latter favored some moderate changes in the rules, but advised that the Boards be kept entirely separate. The latter report was adopted. The financial condition of the Exchange had improved since February by a curtailment of expenses and increase of its rentals. The new rule, requiring the posting on bulletin-board for ten days, any proposed transfer of membership, had been strictly carried out. During the year forty-one members had withdrawn in favor of new ones. The expenditures have largely exceeded those of any preceding year, being for the establishment of wheat standards and sending them to Europe, and the use of telegraphic and telephonic quotations a little more than \$1,320 in excess of last year. The incidental expenses have been about \$200 larger, to which is to be added their first lawyer's bill since incorporation, of \$750. The assets in cash are \$26,035.50, with \$77.50 in outstanding bills. The arbitration committee has been obliged to decide a larger number of questions than in any previous year, while there has been but one appeal from its decisions.

The plans of the new building of the Chicago Open Board of Trade are being rapidly matured, and it is hoped that by September building operations will be commenced. This fine structure will be erected upon a lot recently leased, having a frontage of 100 feet on Pacific avenue, opposite the new Chamber of Commerce building, and running through to Clark street. It is designed at present to build upon the Pacific avenue frontage only, and to erect a building 105 feet deep and six stories high. Upon the first floor, which will be elevated but two feet above the sidewalk grade, will be the board room, which will occupy the north eighty-five feet of the frontage, at the north end of which will be a fine entrance directly from the street. The hall will have an area of 80 by 100 feet, and will be thirty feet high in the clear, lighted by magnificent windows front and rear, and from a skylight forty feet square in the ceiling. The south fifteen feet



of the building will be arranged as an arcade upon the first floor, open to the public front and rear to a depth of thirty feet, the intermediate space being inclosed and occupied by the stairway and elevators, with an ample passage between the front and rear arcades, so that at any future time the building on the Clark street frontage may have a convenient approach from Pacific avenue. This arcade will be only one-half the height of the board-room, which will have entrances in it. The upper half, or mezzanine, being occupied by the Secretary's offices, the Directors' room, and a comfortable gallery for the public. Above the hall there will be four stories of offices opening upon a grand central court fifty feet square, the offices being approached by galleries on each floor after the latest and most favorite method of constructing office-buildings. The exterior of the building will be massive, but of extreme simplicity, being largely of fine pressed brick. There will be a granite base course across the entire front, and above terra-cotta moulded and ornamental bricks will be used for constructive decoration. It is estimated that the cost of this fine structure will not exceed \$125,000.

The Northern Pacific Elevator Co. have increased their capital stock to \$500,000. They now control sixty elevators and grain warehouses on the N. P. Railroad, with an aggregate capacity of 3,000,000 bushels. Geo. S. Barnes of Fargo, Dak., who has been the general manager since the organization of the company, has been elected president in place of E. V. White of Minneapolis, Minn., resigned. Mr. Barnes stated that the wheat would commence to move about Sept. 15.

## Special Notices.

**The Chicago Scale Co.** sell Scales of all kinds also Portable Forges and Blacksmiths' Tools of all descriptions at about one-half usual prices. Buyers will save money by sending for their Price List.

**Elevator Men**—Howes, Babcock & Ewell, of Silver Creek, N. Y., make a full line of wheat cleaning machinery. Read their advertisement on first cover page

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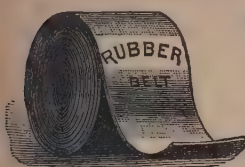
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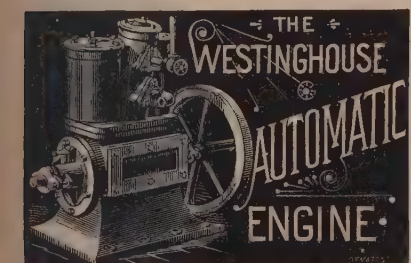
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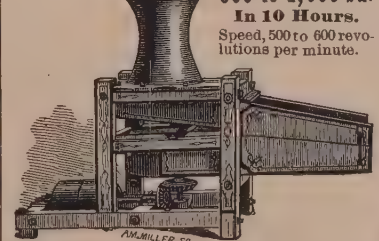
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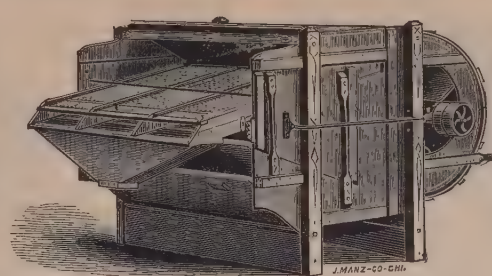
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OUR 10-HORSE we Guarantee to furnish power to saw 8,000 feet of Hemlock boards in ten hours. OUR 15-HORSE will cut 10,000 ft. in same time.

Our Engines are GUARANTEED to furnish a horse-power on 1/2 less fuel and water than any other Engine not fitted with an automatic cut-off. If you want a Stationary or Portable Engine, Boiler, Circular Saw Mill, Shafting or Pulleys, either cast or Mott's Patent Wrought Iron Pulley, send for our ILLUSTRATED CATALOGUE, "No. 34," for Information and Prices.

**B. W. PAYNE & SONS,**  
Corning, N. Y., Box 1448.

### Books on Steam Power!

We will send any of the following named Books, postage free, on receipt of annexed prices:

**Roper—A Catechism of High Pressure, or Non-Condensing Steam Engines:** Including the Modeling, Construction and Management of Steam Engines and Boilers, with valuable illustrations. By Stephen Roper, Engineer. Thirteenth edition, revised and enlarged; 12mo., tucks, gilt edge - - - \$2.00

**Roper—Handbook of Modern Steam Fire-Engines:** With illustrations, by Stephen Roper, Engineer. 12mo., tucks, gilt edge, - - - \$3.50

**Roper—Use and Abuse of the Steam Boiler.** By Stephen Roper, Engineer. Fifth edition, with illustrations. 18mo., tucks, gilt edge - - - \$2.00

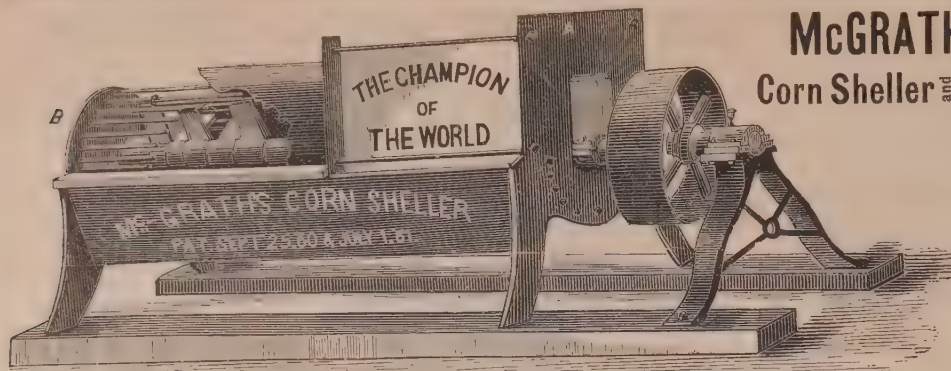
**Roper—Engineer's Handy book...** \$3.50

**Roper—Questions and Answers for Engineers...** \$3.00

Address **MITCHELL BROS CO.,**  
184 Dearborn St., Chicago, Ill.

SUBSCRIBE FOR THE  
**AMERICAN ELEVATOR AND GRAIN TRADE**  
\$1 per Year. Address MITCHELL BROS. CO., Chicago.





## McGRATH & CO.'S Corn Sheller and Corn Cleaner

### WORKS:

Manufacturers of  
**McGrath's Hornet**  
AND  
**McGrath's Twin Corn**  
Sheller and Cleaner.  
McGrath's "Champion  
of the World."  
McGrath's Pat. Grain  
Dump. Also Shafting,  
Pulleys, Hangers and  
Warehouse Machinery of  
every description.

OFFICE AND WORKS,  
136 & 138 S. Third St.,  
LAFAYETTE, IND.

## LISTS OF MILLERS

—AND—

### GRAIN MERCHANTS.

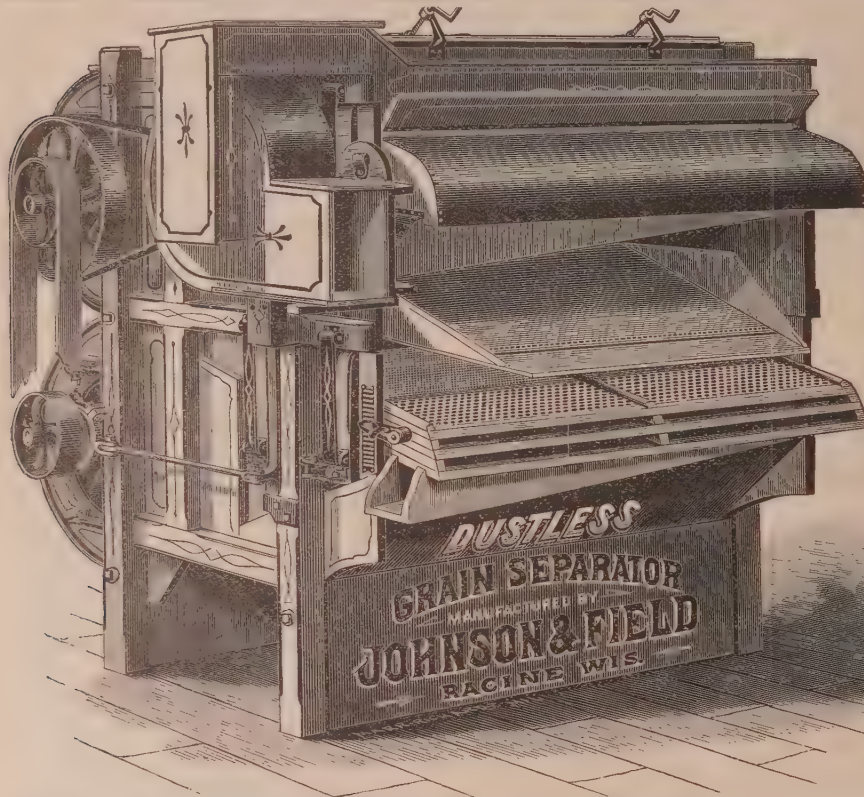
I will furnish the Name and Postoffice Address of 5,693 Grain Merchants, and 9,368 Millers in 14 States, at Prices named in my Circular.

### GUARANTEED CORRECT.

I will furnish the entire list of 15,061 for \$7; the 9,368 millers for \$5, or the 5693 grain merchants for \$4.

### Correspondence Solicited.

Respy, **J. D. LESLIE,**  
Send for Circular. LINCOLN, ILL.



## JOHNSON & FIELD'S DUSTLESS GRAIN SEPARATORS

Our aim has been to construct a machine that would do superior work, clean fast, run easy, and to remove all dust and foul stuff without wasting any grain or seed; also in making it strong and durable in every respect.

The accompanying cut shows our Dustless Separator. For these machines we make the following claims:

**FIRST. Their Superiority in Separation:** They have two distinct combinations of sieves and screens to which blast is applied, which performs the same work in one operation that is usually done in running through twice.

**SECOND. Their Light Running:** They can be run by horse power as well as by steam. One horse power can run them besides elevating the grain.

**THIRD. Their Large Cleaning Capacity:** In constructing these machines the capacity has been greatly increased, so that they will clean much faster than any single machine of equal size.

**FOURTH. The Effectiveness of Removing Dust and Chaff:** By combining the Dustless Fan with these machines all dust and chaff can be taken out and carried through spouts to outside of building or into a dust-box; thereby obviating the great objection and nuisance of having the house filled with dust, and the discomfort and injurious effect on men working therein.

**FIFTH. Their Great Strength and Durability:** In making these machines it has been one of the chief objects to make them as strong and durable as can be done by skilled labor and the best of materials, the frame work being very heavy, made out of thoroughly seasoned white ash. The irons are extra heavy, and all fastened on with bolts, with shafts of one and one-half inch in diameter, Babbitt Boxes, large, solid Eccentrics, with heavy Connecting Rods; and Brass Oil Cups on all Bearings. Also the Hopper, Feed and Grain Boards are covered with Heavy Sheet Iron, preventing the grain from wearing through same.

Although these machines have been only a short time in the market, they have met with universal approval, and the increased demands speak well for their merits. For Circulars, Prices, etc., address

**JOHNSON & FIELD, Racine, Wis.**

## CHAS. KAESTNER & CO.,

Established 1863.

### General Machinery.

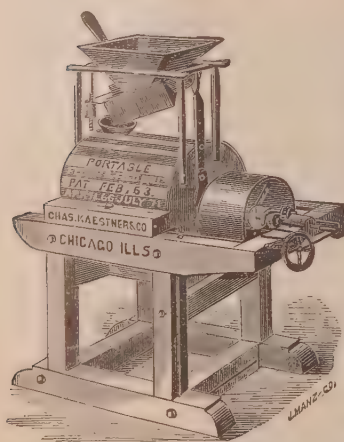
SHAFTING,  
PULLEYS,  
HANGERS and  
GEARING  
A SPECIALTY.

Over 4,500 of our Mills in Use.  
Sold under a full guarantee to give entire satisfaction, or money refunded.  
Parties erecting Elevators will consult their own interests by sending for our Illustrated Catalogue and references.

—X—X—X—

—OFFICE AND WORKS,—

303 to 311 So. Canal St., } CHICAGO.  
74 to 98 Harrison St., }



## OHIO VALLEY

### Boiler Cleaning Company's Compound

Specially adapted for Waters containing Mineral Precipitants.

Sold in Barrel and Half-Barrel Packages, ON APPROBATION, at \$1.00 per gallon. F. O. B. Guaranteed to act in all cases, and to be free from any ingredients injurious to iron. Treatise on Boilers and Steam matters, with references and circulars, free on application. Recipe with Shop Rights, with second order. Address

**BEN E. HARRIS, Sec'y,**

No. 72 West 3d St., CINCINNATI, OHIO.

## TO THE GRAIN DEALERS OF THE UNITED STATES:

I am informed that one JAMES M. HARPER, of Peoria, Illinois, formerly of El Paso, Ill., is representing that he has the control of all the Grain Dump patents issued, and is endeavoring to collect royalty of all men using what is known as the rail dump, which consists of a pivoted track for dumping grain.

This is to notify you that I have the first pivot track or rail dump patent issued by the United States, and that a suit is now pending in the United States Court at Indianapolis, entitled "Swickard et al. vs. McGrath et al.," and also a suit is pending in the United States Court at Chicago, Ill., entitled "Swickard et al. vs. Kissler et al.," which suits will fully settle the question as to who has the true patent to pivot track or rail dump.

Mr. Harper controls no pivot track or rail dump patent. His Swickard patent describes itself to be a platform dump. The cut he publishes in the *Elevator and Grain Trade*, does not represent his dump, but represents ours. Why does he not publish a picture of his own dump? He boasts of his suit against me. "He laughs best who laughs last." Let him wait until the court decides. The court has not granted even a temporary injunction against me. He seems to think because his patent is the oldest that that settles it. Unfortunately for him the courts do not so hold.

If I win my case, as my attorneys are confident I will, then all these royalties on the pivot track dump are due to me. I do not publish this as a boast or a threat, but only to say that the only safe way for grain men to do, is to await the trial of the above suits, which will be in a short time now, and thereby avoid double payment.

He further threatens grain men by saying that "suits will be vigorously prosecuted." Why then has he permitted his suit at Chicago against the Kisslers to drag, and abandon without settlement, a field of several hundred dumps, and go to new fields with threats of prosecution. If he has faith in his claim, let him establish it in the Kissler case, and that will obviate a campaign on the part of traveling men of boasts and threats.

**R. M. McGRATH,**

Proprietor of Patent 115,759, dated from June 6, 1871.

For further Particulars Address

**HON. A. J. BELL,**

ATTORNEY AT LAW,

Grand Opera House, - - - Peoria, Ill.

## BEST ENGINE FOR ELEVATORS

**PHILIP BUEHNER,**

325 Robert St., - St. Paul, Minn.



### "MOORE COUNTY GRIT"

Corn-Mills and Millstones,  
ALL SIZES.

THE BEST IN THE WORLD

FOR TABLE MEAL!

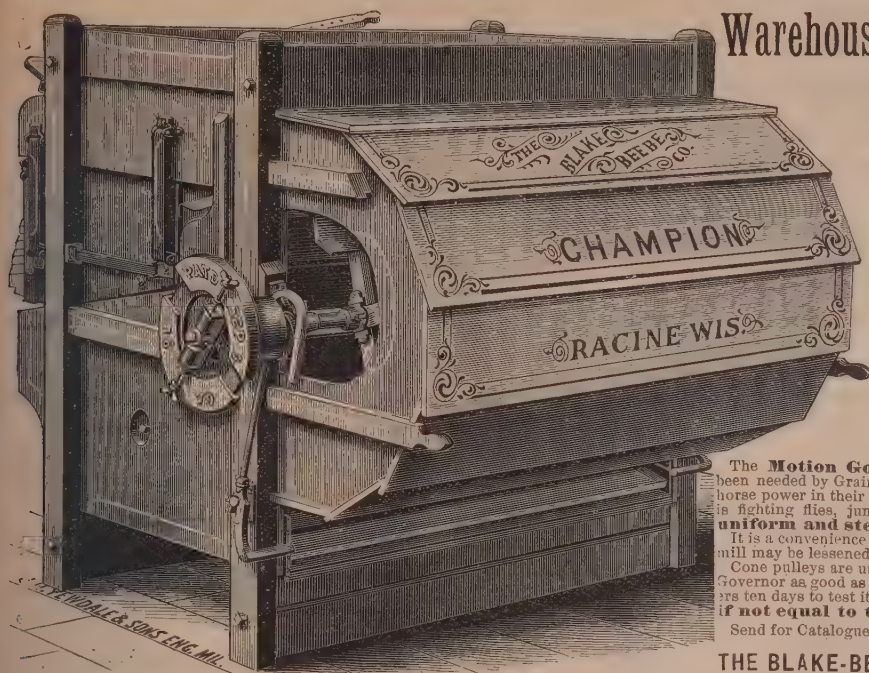
Samples of Meal Sent on Application.

NORTH CAROLINA MILLSTONE CO.

Chambersburg, Pa.

(Please Mention this Paper.)





## Warehouse Fanning Mills.

Cut of No. 6 Mill with Motion Governor.

CAPACITY,  
**600 BUSHEL**  
PER HOUR.

WE MAKE

Seven Different Sizes

FOR  
Warehouses  
and Elevators.More of them in actual and satisfactory  
use than of any other kind.

The Motion Governor is something that has long been needed by Grain men, particularly by those who use horse power in their elevators, for it matters not if the horse is fighting flies, jumps or runs, this Governor preserves a uniform and steady speed.

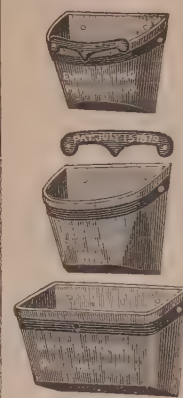
It is a convenience with steam power, as the speed of the mill may be lessened or accelerated by it in a moment.

Cone pulleys are unnecessary with it. We guarantee this Governor as good as represented, and we will allow purchasers ten days to test it, with the privilege of returning if not equal to the guarantee.

Send for Catalogue to

THE BLAKE-BEEBE CO., - RACINE, WIS.

## The Everlasting Elevator Bucket Co.,



Manufactures three of the best elevator buckets on the market. The "Everlasting" is round faced, no corners to catch; superior carrying and emptying capacity, with patent malleable iron lip. Outwears any bucket in the market. The "Boss" has an oval front and square bottom. Light, strong, and durable; lip can be attached if desired. The "Keystone" is as near perfect as a square cup can be. The corners are rounded, with double bottom, and substantially made. Prices as low as ordinary buckets. Best of testimonials. Sold to mill furnishers generally. Order from your furnishers or of us direct. They pack closely. Elevator Bolts at manufacturers' prices.

## The Everlasting Elevator Bucket Co.,

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PRINTING of Every Description.

Catalogues a Specialty.

First-Class Work Guaranteed.

Everything New.

Estimates Furnished on Application.

R. Buckingham &amp; Co.,

150 Dearborn St., Chicago,  
Room 42.

## TO THE GRAIN DEALERS

## Whom It May Concern:

A Circular from R. McGrath is before me in which the author of the said circular says that he has the first Pivot Track or Rail Dump Patent issued by the United States, etc., and known as McGrath's Patent, No. 115,759.

The following are the facts:

One of the patents I control was issued to Noah Swickard, October 13, 1868, which is a rail dump, while that to McGrath was issued June 6, 1871, so that McGrath cannot in any event make any one pay royalty. All persons holding a license under our patents are fully protected. You will notice the McGrath was issued some two years and seven months after the Swickard. Now who has the first patent? You will also notice in their circular that they do not give the date of the McGrath Patent, only the number. Why didn't they give the date when they claim their patent as the first? No doubt the date was left out for a purpose, for in all our notices and printed matter we give dates of all our patents, and four of the same were issued before the McGrath. If they had given date of their patent, it would have given them away.

Suit has been brought at Indianapolis against McGrath to restrain him from making any false claim upon the public under his invalid patent, and to have declared by the United States Court what has already been determined in the United States Patent Office by proceedings in the Interference Case, No. 1,807, Sykes vs. McGrath, in which the Commissioner of Patents decided that McGrath's patent was anticipated and consequently it is invalid, so that McGrath cannot in any event make any one pay royalty.

Their circular bears the name R. McGrath, while the suit is pending against R. M. McGrath, et al, and to him was issued the patent of June 6, 1871.

We believe our patents are infringed by all patents of subsequent date, and this is not only our opinion but the opinion of a large number of attorneys and also grain men who have taken license under our patents, and by such firms as the Sandwich Manufacturing Company, Sandwich, Illinois, and the Link Belt Machinery Company Chicago, Illinois, who are now manufacturing Dumps under our various patents and paying a royalty for same.

To the Owners of Elevators with Dumps and who have not yet taken License From us:

On application I will give you the names of parties in different sections of the country who thoroughly investigated the different grain dump patents before settling with us and who have since settled. The patents under which we grant licenses are dated as follows and all are of prior date to McGrath's: October 13, 1868, No. 83,005; re-issued, December 10, 1870, No. 4,212 to Noah Swickard; October 20, 1868, No. 83,288 to Samuel C. Kenaga; November 23, 1869, No. 97,252; to Benjamin Walton; September 6, 1870, No. 107,040 to Wm. M. Hall.

It is charged by those whom we have sued or by parties working in their interest "that the certificates and letters shown by my traveling men have been obtained by complicity with the parties for the purpose of deceiving and bulldozing the unwary." The Sandwich Manufacturing Co., and the Link Belt Machinery Co., are firms who are pretty well known all over this country; and men whom we have settled with in different parts of the country are as smart and substantial business men as you will find in any country, and if the author of the charges spoken of above thinks he can bulldoze any of them let him try it. The manufacturing companies named, would hardly allow anyone to do them a wrong or bulldoze them into taking a license if they thought it was not right to do so. We are going right along with our settlements, while suits will be vigorously prosecuted.

Any further information given by addressing.

J. M. HARPER, Peoria, Ill.

## GLADIATOR CORN SHELLER AND CLEANER.

THOUSANDS IN USE.

## PORTABLE CORN AND FEED MILLS,

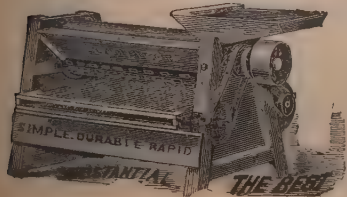
SHAFTING, PULLEYS,  
GEARING, ELEVATORS,  
BELTING AND CUPS.

Send for Pamphlet and Prices.

THE SIMPSON &amp; GAULT MANFG. CO.,

Makers of Flour Mill Machinery.

CINCINNATI, OHIO.



Send for Illustrated Catalogue.

ELEVATOR COMPANIES,  
CONTRACTORS AND BUILDERS,

Attention is Called to the Superior Qualities of

## ENGINES, BOILERS

—AND—

## ELEVATOR MACHINERY

Manufactured by the

## PAIGE MFG. COMPANY,

173 &amp; 174 Lake St., Painesville, Ohio.

We Refer to the GRAIN TRADE of the NORTHWEST.

C A L D W E L L S 30,000  
C O N V E Y O R F E E T

C A L D W E L L C O N V E Y O R

CARRIED IN STOCK.

4 in., 6 in., 9 in., 12 in. and 16 in

Warranted not to Injure Flour

Order from cuts shown as wanted.

AVOID THE INFRINGEMENT.

H. W. CALDWELL,  
46 S. Canal St., Chicago.

## WHAT WE CLAIM FOR OUR DRIER.

That it is the Drier for large dealers and elevators.

That its capacity is from 1,000 to 50,000 bushels, according to the size built.

That it is the cheapest in the market for its capacity and durability.

That it can be used without heat, but would advise a temperature of 100 degrees Fahr.; more is liable to injure the grain.

That one man can operate it.

That the machine as drawn in patent, of four feeds on a series, and 30 series high, requiring a space in a building of 6x8 feet, 30 feet high, with the use of two Koot's Blowers, one No. 5 for hot air and one No. 1 for cold air, with the hot air 100 degrees, will absorb and carry off 1,000 pounds of water per hour.

That the operator has perfect control of feed, heat and blast, and can dry the grain to any degree desired, and need not take out more water than is necessary to make it grade.

That the feeds are force feeds, and will supply an even and regular stream of grain, from one-eighth to one inch thick, the length of feed.

We also claim that by the use of cold air in finishing grain it can be placed in bulk without injury as it comes from the Drier.

We do not propose to sell the right to use the Drier, but desire to negotiate with one party or firm, in each grain depot where it will pay to use a Drier of large capacity, to form a company to operate in this class of grain, and we will put the right to use our Drier in same for an agreed share of the profits; or we will let it be built on a royalty, but in no case will there be two companies formed in the same place. Any one desiring to see the principle and working of the Drier can get a copy of the patent by sending twenty-five cents to the Patent Office, naming the date of issue (July 24, 1883), and number of patent (282,013), or to J. C. Slaughter, Chestertown, Md.

ADDRESS

J. C. SLAUGHTER, Chestertown, Md.,

OR

HARRY B. SLAUGHTER, 505 Delaware St., Kansas City, Mo.



# CIRCULAR GRAIN ELEVATORS.

## L. C. BARNETT,

36 Washington Ave. S.

Room 10,

MINNEAPOLIS, : : MINN.,

### BUILDER

For all Territory West of the Mississippi.

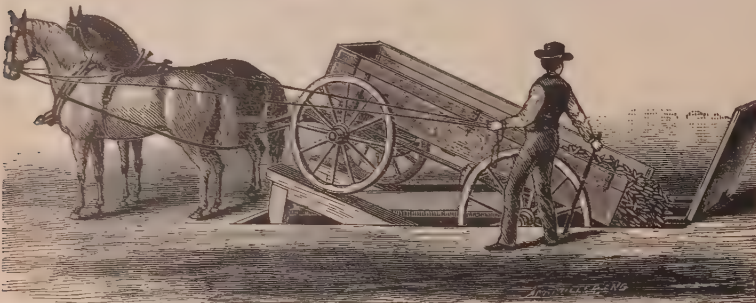
More than FIFTY in Successful Operation in the Northwest.

We can refer intending Builders to any and all of them.

The Most Storage for the Least Money,

And the

Handiest to Operate.



The above cut is a fair representation of the Rail Dump in common use, on which we are collecting a royalty for past use, and licensing parties to continue to use and also put in New Dumps. Our patents on Rail Dumps fully cover this class of Dumps. Any one using Rail Dumps can readily decide by comparing his Dump with this cut, whether he infringes or not. We also control patents that cover Platform Dumps. Our prices are reasonable in settlements for past infringements, and for licenses to continue to use the Dumps. Prices given on application. See notice below.

## NOTICE.

### To Parties Using Grain Dumps.

Notice is hereby given that we have been retained to prosecute infringers of the following Letters Patent on Grain Dumps:

One granted to Noah Swickard, Oct. 13, 1868, No. 88,005. Reissued Dec. 20, 1870, No. 4,212, for Improvement in Wagon and Car Unloading Apparatus.

One granted to Samuel C. Kenaga, Oct. 20, 1868, No. 83,288, for Improved Dumping Platform.

One granted to Benjamin Walton, Nov. 31, 1869, No. 97,252, for Improved Dumping Machine, and

One granted to Wm. M. Hall, Sept. 6, 1870, No. 107,040, for improvement in Grain Dumps, and all persons or parties manufacturing or using Grain Dumps which infringe on any of the above described Patents must make settlement for all past infringements, and take license in accordance with the usual terms, if they desire to continue to manufacture or use the same, or legal steps will be taken to enforce said Patents against all infringers.

Applications for licenses for using said patented improvements, and for settlement for past infringements should be addressed to

J. M. HARPER, New Opera House Building, Peoria, Ill.

### BURNET & BURNET,

Complainant's Counsel, Cincinnati, Ohio.

## Kerr Murray Mfg. Co.,

Ft. Wayne, Ind.

MANUFACTURERS OF

### Grain Elevator and Mill Machinery,

Wrought Iron Tanks and Cast Boots Complete. Steam Engines and Boilers, Shafting, Pulleys, Etc.

IMPROVED STEAM SHOVEL MACHINERY.

ESTIMATES FURNISHED ON APPLICATION.

## Cutler's Patent BINS

For Cooling Heated Grain,

—AND—

For Storing and Drying Damp Grain.

Requires only 30 per cent. more room than common bulk storage.

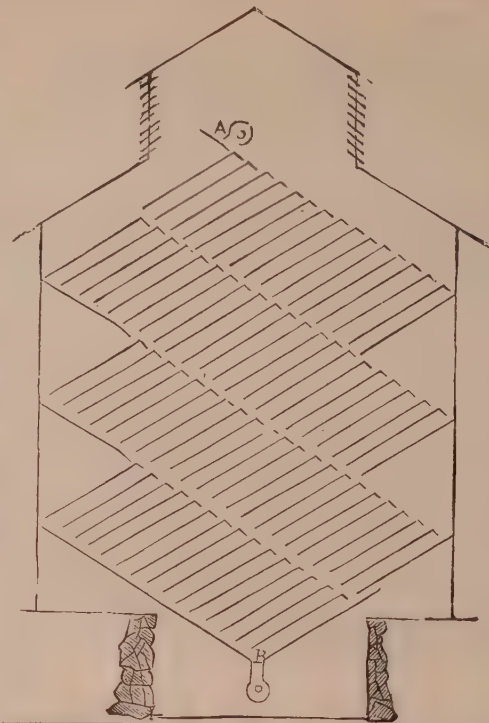
BUT

Little Difference in Cost.

Send for Circulars.

### CUTLER & CO.

North Wilbraham, MASS.



A. R. SPURLING, Pres.

W. H. PREBLE, Sec'y and Treas.

A. C. KRUEGER, Sup't.



The Chicago Rawhide Mfg Co.,  
Manufacturers of

Rawhide Belting, Lace Leather & Rope,

(Specially Adapted for)

Lariats and Other Rawhide Goods of All Kinds,  
BY KRUEGER'S PATENT.

75 & 77 E. Ohio St., Chicago.

(:)

This Belting and Lace Leather Never Becomes Hard.

## THE WESTERN GRAIN DUMP CO.,

Until Nov. 15 next, will make the following special rate for Right to use the

HINMAN DUMP,

Viz.:—\$30 for first, \$15 for second, \$10 for third, and \$5 for each additional Dump. This rate is made at the earnest request of our patrons through the Northwest. For price of fixtures, and further information, address

WESTERN GRAIN DUMP COMPANY,  
Lincoln, Ill.

## STEAM GRAIN DRYER.

A description of operation of W. H. Applegate's new invention for handling and drying new and damaged grain. PATENT ALLOWED AUG. 15, 1883.

This grain dryer can be adapted to a very large business or a small one; it can be built to dry thoroughly from 50 to 2,000 bushels per hour of new corn, wheat, oats, barley or rye, and one-third more of partly dried grain, and put them in as good condition as if they had gone through the sweating process naturally, leaving the color perfectly natural. New corn can be dried in one-half hour and left in as perfect condition as if it had lain in good cribs for six months. The grain passes down through the dryer and through between two wire cloth screens in a thin sheet, of its own weight, very slowly, and is discharged by a discharge-valve, under the control of the man operating it, and it can be set to hold the grain 10, 20 or 30 minutes, or till it is thoroughly dried. New, undried grain is received into the top of dryer as fast as the dried grain is taken out of the bottom, keeping the dryer constantly full at all times. The dryer is cased in a brick wall and heated to 350 deg. by steam pipes, which do not come in contact with the grain. The dampness is taken off at top. This dryer is very simple and easily built, each bushel of grain is spread out in 30 square feet,  $\frac{1}{2}$  of an inch thick, and it will be warranted to do all that is here recommended to do or no pay, and will cost in proportion to its size, as it is impossible to do something with nothing, but this dryer will cost one-third less than any other dryer ever built, of same capacity.

I am making arrangements to have these Dryers manufactured in Chicago, and will have four or five good sized Dryers in actual operation on this present crop of new corn in some of the large grain points. They have been tested by wetting old corn and then drying it out again, and worked very satisfactory. The wire cloth of proper size and width is not kept in stock and will have to be manufactured to order, consequently can not have but few in use this fall. For further information, address

W. H. APPLIGATE, Patentee, Atlantic, Iowa.



Catalogues of Feed Mills, Wind Mills, Pumps, Corn and Cotton Cultivators Free.  
Sandwich Enterprise Co., Sandwich, Ill.

T. M. NAGLE,



ERIE, PA.,  
Manufacturer of  
Portable,  
Stationary  
and

Agricultural  
Steam Engines.



## A GREAT SAVING IN THE RUNNING OF GRAIN ELEVATORS! THE LOTZ PATENT GRAIN SHOVELING MACHINE, FOR UNLOADING CARS.

PAT. NOVEMBER 23, 1880, AND DECEMBER 14, 1880.

This machine works automatic. The hoist rope spool of each machine is driven from a line shafting by paper friction wheels, and all the mechanical movements in the machine are such that they will not wear, nor get out of order. A GREAT SAVING IN REPAIRS OF SCOOPS, in the WEARING of ROPES, in LUBRICATING MATERIAL, and in REPAIRS ON MACHINE. The resistance on taking the scoop back into the car is much less than with other automatic machines. The length of pull of hoist rope can be instantly adjusted. The more economical operation of this machine as compared with others will pay its first cost in five years.

Eleven double machines of above construction have been set up and are in practical operation in Rock Island Elevator A, near Twelfth Street Bridge, Chicago, Ill.

Office of FLINT, ODELL & CO., 151 Monroe St.,

Mr. WM. H. LOTZ, CHICAGO:

DEAR SIR—We have been using your Patent Shovel Machines in Rock Is' and Elevator A for several months, and are well satisfied with them. We estimate a saving of 50 per cent. on shovels, 75 per cent. on rope, and 60 per cent. on oil over all the Shovels previously used by us. Yours truly,

FLINT, ODELL & CO.

For further information address

HOWARD IRON WORKS, Buffalo, N. Y., or

WM. H. LOTZ, Mechanical Engineer  
Metropolitan Block, Chicago.

## HOWARD IRON WORKS, BUFFALO, N. Y. —MANUFACTURERS OF— MACHINERY FOR GRAIN ELEVATORS.

They Have Furnished the Machinery For

MUNGER, WHEELER & CO., AIR LINE ELEVATOR.....	CHICAGO, ILL.
VINCENT, NELSON & CO. ELEVATOR.....	" "
ARMOUR, DOLE & CO., C ELEVATOR.....	" "
ARMOUR, DOLE & CO., D ELEVATOR.....	" "
MUNGER, WHEELER & CO., IOWA ELEVATOR.....	" "
MUNGER, WHEELER & CO., ST. PAUL ELEVATOR.....	" "
WABASH ELEVATOR.....	" "
CHICAGO & WESTERN INDIANA RY CO. ELEVATOR.....	" "
N. Y. LAKE ERIE & WESTERN RYCO. ELEVATOR.....	BUFFALO, N. Y.
COMMERCIAL ELEVATOR.....	" "
WHEELER ELEVATOR.....	" "
UNION ELEVATOR.....	TOLEDO, OHIO
JOLIET ELEVATOR.....	JOLIET, ILL.
SODUS BAY ELEVATOR.....	SODUS PT, N. Y.
SILCO ELEVATOR, HAMBURG, GERMANY, and others.	



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47 and 49 West Lake Street, Chicago, Ill.,  
Manufacturers of the following Well Known Specialties:  
The EXCELSIOR MILL BUCKET—EXCELSIOR RIVET BUCKET—EXCELSIOR CORN BUCKET—  
CORRUGATED BELT BOLT—EXCELSIOR FLAT HEAD BOLT—SAFETY IRON ELEVATOR BOOT—EXCELSIOR CAST IRON BOOT.

In Stock—10,000 Feet of  
**ACALD WHEELS  
CONVEYOR**



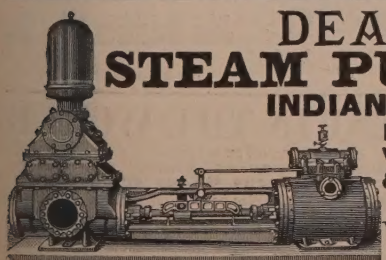
**THE LECHNER**  
*Anti-Friction Roller Detachable Chain Belting*  
FOR TRANSMITTING POWER.

The only medium by which so nearly all the power applied is transmitted. The special feature about this chain, and which makes it superior to other chains for similar purposes, is the *Friction Roller* on the rivet, which takes off all friction from the sprocket, and nearly all from the rivet, and admitting of almost any desired speed.

**ESPECIALLY ADAPTED**  
For Elevators, Drags, Carriers, Driving Heavy and Light Shafting, etc.

Send for Circulars. Manufactured and sold by the  
**LECHNER MANUFACTURING CO.,**  
COLUMBUS, OHIO.

Also Manufacturers of the Lechner Coal-Mining Machines.



**DEAN BROS' STEAM PUMP WORKS,**  
INDIANAPOLIS, IND.  
Boiler Feeders, Fire Pumps, Vertical Pumps, Air Pumps & Condensers, Water Works Pumps.  
WRITE FOR CATALOGUE & PRICES.

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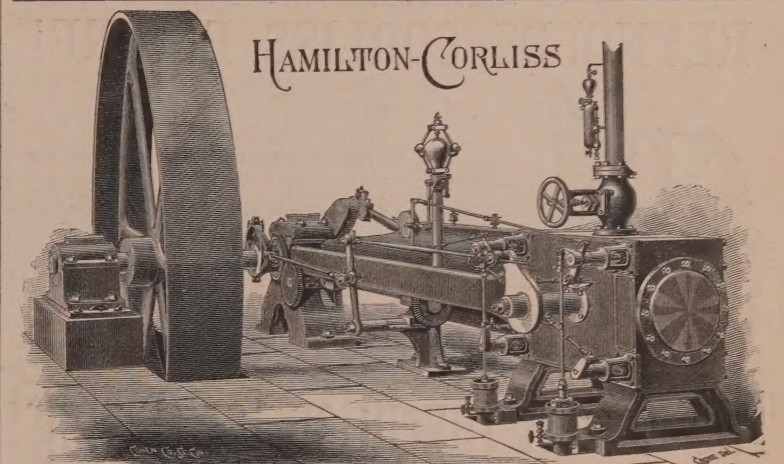
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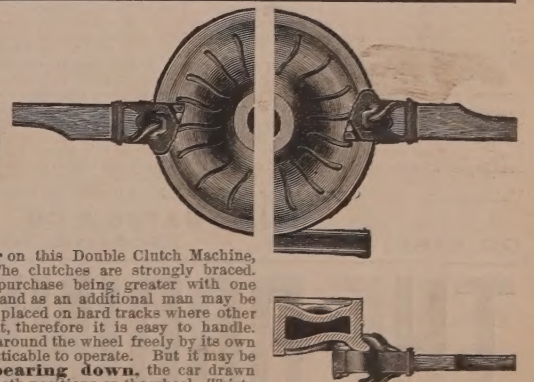
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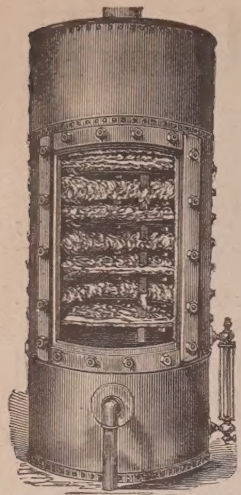
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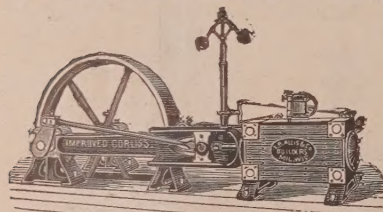
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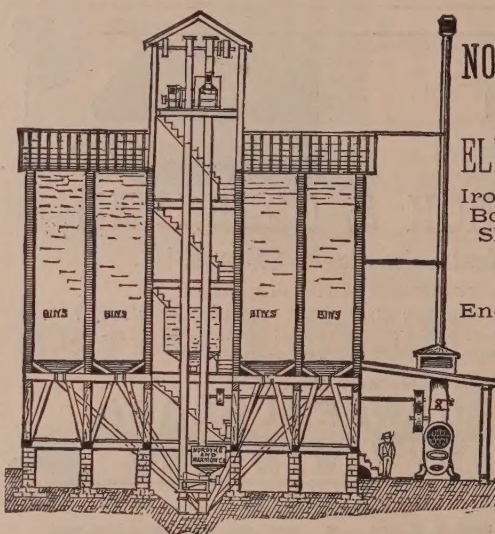
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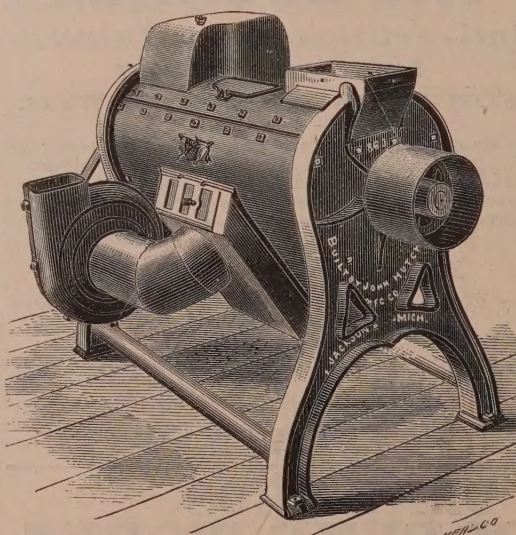
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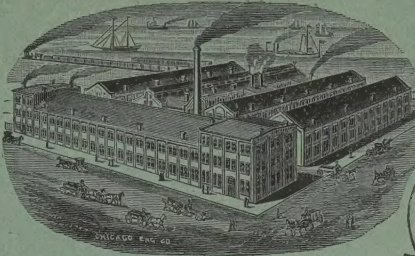


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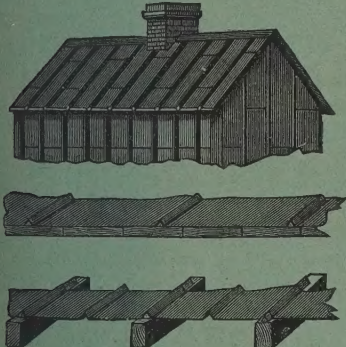
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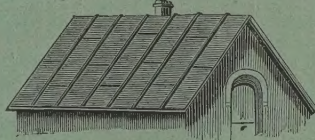
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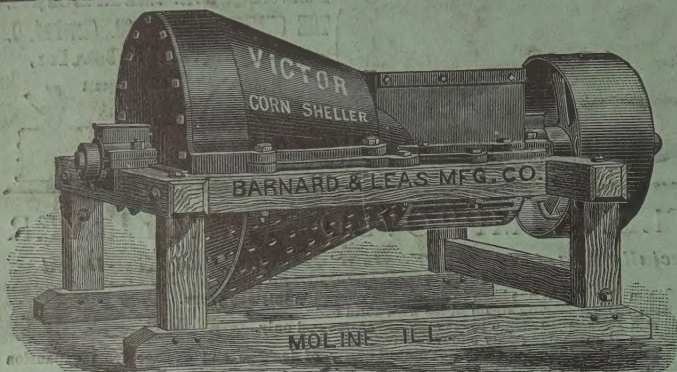
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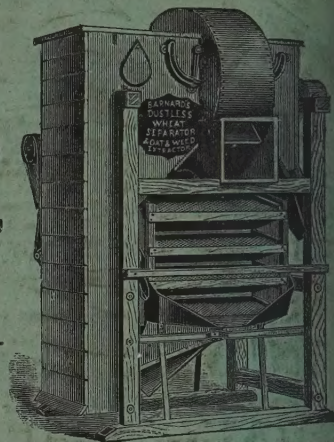
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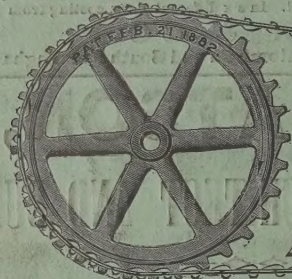
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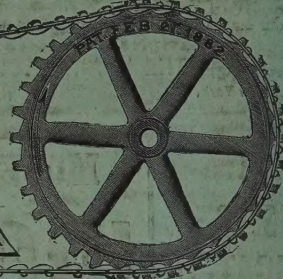
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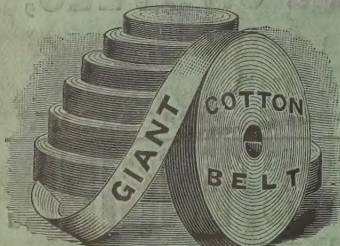
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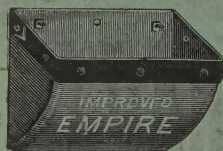
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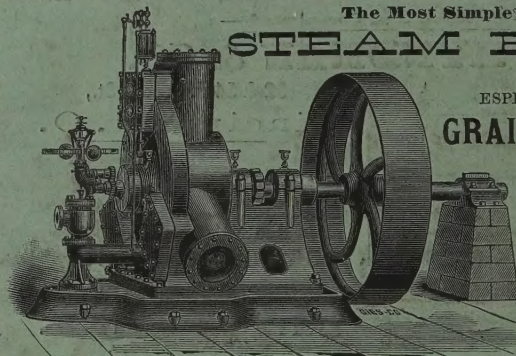
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